# DOCUMENT RESUME

ED 289 584 PS 017 003

| | |
|---|---|
| TITLE | Core Competencies and Key Skills for Missouri Schools: For Grades 2 through 10. |
| INSTITUTION | Missouri State Dept. of Elementary and Secondary Education, Jefferson City. |
| PUB DATE | Sep 86 |
| NOTE | 168p. |
| PUB TYPE | Guides - Classroom Use - Guides (For Teachers) (052) |
| EDRS PRICE | MF01/PC07 Plus Postage. |
| DESCRIPTORS | Civics; *Core Curriculum; Elementary Secondary Education; English; Language Arts; Mastery Learning; Mathematics; *Minimum Competencies; Reading; Sciences; *Skills; Social Studies |
| IDENTIFIERS | Missouri |

ABSTRACT

This guide provides a list of learner outcomes for students in grades 2 through 10 that are important for subsequent learning in the associated subject area. Competencies and skills are indicated for the following subject areas: (1) language arts, reading, and English; (2) mathematics; (3) science; and (4) social studies and civics. Each section of the guide includes a list of resources pertaining to the subject area. In addition, procedures for incorporating the listed skills into the local curriculum are presented, along with a statement on promotion and retention policies. (PCB)

***********************************************************************
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
***********************************************************************

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Otis Baker

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Copyright 1986
Missouri Department of Elementary and Secondary Education
Arthur L. Mallory, Commissioner of Education

# Foreword

Missouri's continued commitment to supporting and improving public education is exemplified in the Excellence in Education Act of 1985. Along with a substantial funding increase, the Act deals with all aspects of education simultaneously from teacher training and certification to curriculum standards and testing for students. This publication focuses on curriculum and the identification of key skills called for in Section 4 of the Excellence in Education Act of 1985.

Core Curriculum Competencies and Key Skills are listed in terms of learner outcomes. As the term "Core" and "Key" imply, this list of learner outcomes should not be considered as the total list of *all* a student should learn through grade ten. This is a list, however, of skills and knowledge deemed essential to further learning in each of the associated subject areas.

Through the proper use of these Core Competencies and Key Skills by the public schools of Missouri, students will have the opportunity to "learn how to learn" in each basic subject area.

The Missouri State Board of Education and I are grateful for the assistance provided by several hundred of Missouri educators and other citizens in the construction of the Core Curriculum Competencies and the identification of key skills contained herein. Without the advice, council, and support of many people, this publication would not have been possible.

Arthur L. Mallory

Commissioner of Education

# Table of Contents

Introduction ........ v

**Levels II-III**

- Language Arts/Reading/English ........ 3
- Mathematics ........ 7
- Science ........ 10
- Social Studies/Civics ........ 14
- Resources ........ 20

**Levels IV-V-VI**

- Language Arts/Reading/English ........ 33
- Mathematics ........ 39
- Science ........ 45
- Social Studies/Civics ........ 51
- Resources ........ 63

**Levels VII-VIII**

- Language Arts/Reading/English ........ 81
- Mathematics ........ 86
- Science ........ 90
- Social Studies/Civics ........ 95
- Resources ........ 104

**Levels IX-X**

- Language Arts/Reading/English ........ 119
- Mathematics ........ 125
- Science ........ 129
- Social Studies/Civics ........ 134
- Resources ........ 144

Core Competencies/Key Skills Oversight Committee ........ 156

Language Arts/Reading/English Committee ........ 158

Mathematics Committee ........ 160

Science Committee ........ 162

Social Studies/Civics Committee ........ 164

# Introduction

Missouri's Excellence in Education Act of 1985, passed by the 83rd General Assembly, is among the most significant legislation regarding education ever passed in Missouri. This bill is a step toward expanding *equality of opportunity* to include *equality of outcomes* for Missouri's elementary and secondary students.

A growing body of research challenges many existing beliefs about the distribution of the human potential to learn—and to teach. We have known, for some time, that the relative achievement rank of a student in high school can be determined with considerable accuracy by the end of grade two. Educators and medical doctors alike have begun to emphasize the efficacy, both to the individual and to society, of a *prevention* model over a *remedial* model. It makes sense to treat a detected aberration in physical development before it matures to the point where all aspects of body function are distorted. It makes as much sense to treat learning deficits as soon as they can be detected, rather than letting them accrue until students can no longer function effectively as learners and become "remedial" cases.

The *Core Competencies and Key Skills*, produced in compliance with Section 4 of the Excellence in Education Act, is a list of learner outcomes that are important for subsequent learning in the associated subject area. Numbers of teachers, subject area specialists, school administrators and college professors assisted the staff of the Department of Elementary and Secondary Education in assuring that the Core Competencies and Key Skills represent a balance of learning in each subject area and that they are important learner outcomes upon which to build further learning. With outcomes identified a teacher can, by setting mastery criteria, determine which outcomes any student has mastered and provide the appropriate "correctives" (reteaching or additional practice) so that the student can continue to learn with his class.

The *Core Competencies and Key Skills* approach is also consistent with the latest research on successful and effective schools. This research answers the question, "What unique quality and/or practice of the successful school accounts for its success?" The emerging answer to this question is *curriculum alignment*. Simply stated this says: If our schools clearly state the student learning outcomes they are seeking; if the schools then focus on activities that teach toward the outcomes; and if the schools assess the same learning outcomes to determine student learning, they will be much more successful than most of us typically expect.

This alignment is more often significantly associated with schools in which all children achieve at a high level than are any specified teacher behaviors. The Excellence in Education Act states that the key skills identified by the Department of Elementary and Secondary Education are to be included in the local school district testing program and these test results are to identify areas for instructional improvement. Thus, the Excellence in Education Act provides an opportunity for school districts statewide to "align" their objectives, teaching activities and testing to a much greater extent—especially in the core competencies. A major purpose for this publication is to provide teachers with ideas to improve curriculum alignment and, as a result, improve learner competence.

The clear implication of the foregoing is that change is required in all Missouri schools. Change is difficult even when one is highly motivated. Change takes time. This publication is an attempt to help guide professional school personnel through these changes. One should remember; change is a process, not an event!

Another purpose of this publication is to help teachers understand that the key skills should not be taught as an unrelated set of skills, but should serve as a framework of interrelated and interdependent skills permeating the entire curriculum. Reading skills, for example, should be practiced and consciously applied in each subject area taught, not just in reading class. Some key skills are stated much the same at progressive grade levels in a subject area and should be continually reinforced. It is through the recognition of the interrelationships of ideas that one begins to acquire real wisdom.

As far as possible, the *Core Competencies and Key Skills* are sequential. Therefore, one should recognize that, in many cases, a higher level key skill subsumes mastery of lower level skills. A student who can consistently identify the main idea of a paragraph has obviously mastered word recognition skills. This concept can be applied to each of the subject disciplines.

## Promotion and Retention Policies

Policies pertaining to promotion and retention are a matter for each local school district to develop. Some Missouri educators have viewed the State Board of Education's *Action Plan* statement discouraging social promotion and the "key skills" resulting from the Excellence in Education Act as mandates to use "key skills" mastery as criteria for student promotion. The key skills can be of value in establishing an objective and sensible promotion/retention policy, but considerable thought and discussion should precede any changes in these policies.

The Key Skills and Core Competencies in this publication have been carefully developed; they define realistic expectations for all but a small percentage of the student body who have limiting handicaps. However, students failing to demonstrate mastery of the key skills listed for grades three, six, eight and ten may do so because the antecedent skills or knowledge were not mastered at preceding grades. For instance, a student failing to meet the mastery criteria at the end of grade three may not have received adequate instruction in prerequisite skills in kindergarten, grade one or grade two. Retaining the student at grade three should be considered *only* if the student has had sufficient instructional time and adequate resources provided. If a student has had ample opportunity to learn and if the parents and student were informed at the beginning of instruction, then retention may be a reasonable option. Retention which results in a mere repetition of the previous year's activities has seldom, if ever, proved to be effective.

Students do not all learn at the same rate. Time, as a variable, is a tool that teachers should use. An instructional management system will provide continuous monitoring of student progress. This should keep teachers and parents alert to lags in a student's learning. The list of Key Skills and Core Competencies should guide teachers in choosing priorities for the use of time in teaching. The key skills are not all that education should be, but they are *most important for subsequent learning*.

If a student who has mastered all but one or a very few of the key skills is promoted, the record for that student should be sent to the receiving teacher so that the key skills will eventually be mastered. A record of each student's progress on all objectives should be maintained as a necessary part of the instructional management system.

## Recommended Procedures for Incorporating the Key Skills into the Local Curriculum

The degree of change required by a school district to eventually demonstrate improved performance on the learner outcomes in the *Core Competencies and Key Skills* publication will depend upon how well organized the instructional program is at the present time. Many school districts will discover that several of the following steps for incorporating the key skills into their existing program have already been accomplished. Other districts, especially those which have been using a "textbook driven" curriculum with little vertical articulation, will find that all of the following steps will be required if improvement is to be expected.

### Step I

Step one should include a careful *review of present curriculum* practices. If a carefully developed instructional management system (IMS) is already in place, the learner outcomes or objectives should be matched with the state key skills as closely as is feasible. Slight wording differences will not necessitate drastic change. The present IMS program will likely include more learner outcomes than the state key skills list. This is because the key skills were not meant to be the total curriculum.

Some school districts will be faced with a larger task. If they do not have a complete set of learner outcomes for the subject areas included in the key skills, they will find it necessary to begin building such a list. It is suggested that districts beginning at this point start with the state key skills as a framework and add other learner outcomes the district deems desirable.

In all likelihood, most Missouri school districts will find themselves mostly somewhere between the foregoing extremes; that is, better aligned to the state key skills in some subjects than in others. It should be emphasized that the *Core Competencies and Key Skills* handbook contains only the "core" of a curriculum.

Another important aspect of Step I is to group the learner outcomes into teaching units. Seldom should a single learner outcome be taught in isolation. For instance, the grade level learner outcomes in science can be grouped logically into six to ten teaching units. Often careful study will result in consolidation of learner outcomes from more than one subject area into a single unit.

Who should be involved in this first step of implementation? Certainly teachers who represent the various grade levels and subject areas should constitute the largest portion of the various subject area committees. School principals should be included in this decision making process and, when available, subject area consultants and curriculum specialists. There is no better way to insure articulation of learner outcomes from level to level than to have teachers from the different levels working together to plan learner outcomes.

One of the more critical aspects in working for school improvement is school patron understanding, input and satisfaction. There are several procedures for productively involving parents and patrons in curriculum development. One such method may be to have the local school board and administrators appoint a curriculum oversight committee to meet with the professional curriculum committee occasionally, to look over the products of their work, and to make suggestions as to future plans for proceeding. This will give the school district a number of important community members who understand how the curriculum is developing and how implementation has been planned. Building broad support and understanding for change is important.

### Step II

After learner outcomes containing the state key skills have been identified, grade-level or subject-area committees should then begin to *set mastery criteria* for each skill at each grade level. Mastery criteria are defined as the levels of performance required for a student to use the skills or knowledge successfully on next-higher learning tasks. A teacher cannot determine how much time is needed nor how much time to allow for teaching without a clear definition of learner outcomes defined as *demonstrated mastery*.

Mastery criteria for some learner outcomes are more difficult to state clearly than for others. For example, it is not difficult to state and to understand that solving 18 of 20 two-digit multiplication problems correctly in 20 minutes is a measurable outcome. It is more difficult to state the acceptable criteria for an original written passage. However, unless the teacher can state the critical elements which distinguish an acceptable paper in clear and understandable words, only the most talented students may somehow stumble upon an improved writing style. [The purpose of school is to teach all students; not to *sort* the more talented from the less talented.]

Finally, mastery criteria serve as *minimum* acceptable performance. Students should always be encouraged to surpass the minimums.

### Step III

With learner outcomes stated clearly and agreed upon and with mastery criteria unequivocally set, individual teachers can begin *planning instructional strategies* to help students acquire each desired competency. More than one teaching strategy should be planned to accommodate the student who does not demonstrate mastery of a skill as quickly as others. To the extent that the learner outcomes are sequential, it is critical that every student master each key skill. When learning is arranged sequentially, a learning deficit at any step will pose a barrier to further progress in this subject.

Learning resources, including but not limited to textbooks, should be identified during this process. When future textbook purchases are being considered, the choice should be weighted heavily toward those texts which provide the best assistance in achieving the desired learner outcomes.

### Step IV

Building- and/or district-level committees should give a great deal of study to the *selection or development of a system for recording pupil progress by objectives or skills*. An ideal record keeping system should not require an undue amount of teachers' time. Further, the recording system should make it possible to update reports on individual students frequently and easily for both student and parent reports. Frequent and relevant feedback which informs both students and teachers of mastered skills serves as powerful motivation for students and provides guidance to the teacher in planning learning activities.

Computers, including microcomputers, can facilitate record keeping and record generating. Remember, many learner outcomes do not lend themselves to paper and pencil tests. Therefore, teacher observations should be utilized to record pupil progress when appropriate. Of course, appropriate mastery standards are essential for all key skills.

The Excellence in Education Act calls for the district to use the results of criterion-referenced tests (CRTs) to improve instruction. A comparison between the school's records and a performance report from the Missouri or other state-approved CRTs can provide a means for adjusting mastery criteria if deemed appropriate. The CRTs will serve to confirm the local district's mastery criteria. The CRT will reveal strengths in your program but will also expose relative weaknesses. It is extremely important to work for steady improvement by *all* students rather than concentrating on improving the mean scores for a class and/or building.

### Step V

The final step in implementing the Core Competencies and Key Skills is *planning how to utilize and report the CRT results*. The data will result in a report for each student of the key skills that were mastered and those which need further work. This can be useful in planning for reteaching and for reporting to parents.

A second report will reflect total classroom performance. From this report, the teacher can decide where the strengths and weaknesses in the instructional program lie. The classroom report provides data that should be used to modify or to confirm the efficacy of present teaching practices. A redistribution of time allotted to teaching the various skills and knowledge may result in learner improvement. Redesigning learning activities may be necessary. The teacher may decide that the mastery criteria are too difficult or not difficult enough.

The building report should be utilized to modify schedules and allot resources. This report can be viewed as an assessment to guide the planning of staff development and/or the future selection of learning resources, such as textbooks.

Finally, the district report should be useful to the district administrators and school board members. Learner outcomes, properly assessed, should be used in making decisions at the district level such as: where and how to allocate resources, both human and material; how much and what kinds of staff development activities should be supported; and what decisions need to be made as to length of instructional periods, grade-level organizational patterns (K-3, 4-6, 7-9, 10-12 or K-8, 9-12, etc.) and staffing patterns.

Criterion-referenced test results and the *Core Competencies and Key Skills for Missouri Schools* should be studied carefully to see whether reorganizing existing courses or substituting essentially new and different courses would likely result in the greater instructional improvement.

If one keeps in mind that the only justifiable purpose for schooling is student learning, then one can understand the utility and value of an accurate and periodic assessment of learner outcomes.

## The Significance of Terms and Symbols Used in this Publication

*Core Competencies* are identified by capital letters. They are connecting strands that generally run from level to level. Obviously, some strands do not extend through all levels.

*Learner Outcomes* are listed under the competencies. These are specific indicators of mastery for the associated competency.

*Key Skills* are those learner outcomes considered to be *key* indicators for the associated competencies. *Key skills* that are preceded with the symbol "●" are those for which test items, to be included in districts' testing program and the annual state assessments, will be developed. *Key skills* preceded with the symbol "○" are those considered to be of major importance for local assessment. All *key skills* are considered to be so critical for subsequent student learning that records of individual student's performance on each skill should be maintained to insure eventual mastery by every student.

The competencies and learner outcomes on these lists call for student learning considerably above the simple recall level. Students who demonstrate mastery of these skills by the tenth grade will have the ability to apply critical thinking skills and problem solving strategies in future situations. Their ability to profit from future education, grades 11-12 and beyond, will be greatly enhanced by mastery of these learner outcomes.

**Key Skills for State Assessment**

| Levels | Number of Key Skills | | | |
|---|---|---|---|---|
| | Language Arts, Reading & English | Math | Science | Social Studies and Civics |
| III - End of Grade 3 | 23 | 17 | 16 | 15 |
| VI - End of Grade 6 | 25 | 26 | 23 | 21 |
| VIII - End of Grade 8 | 29 | 25 | 18 | 18 |
| X - End of Grade 10 | 29 | 23 | 20 | 25 |

# LEVELS
## II-III

# Language Arts/Reading/English

## LEVEL II

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.

*The learner will:

1. Use context clues as a means of identifying unfamiliar words.
2. Identify and use consonant sounds in initial, medial and final positions and consonant blends in decoding unfamiliar words.
3. Identify and use vowel sounds—long, short, digraphs and diphthongs—in decoding unfamiliar words.
4. Enlarge basic sight vocabulary to include words in Level III of *Missouri Basic Word List*.
5. Divide words into syllables and arrive at approximate pronunciations.
6. Analyze words for prefix (un, in, re), base word and suffix (s, es, ing, ed) and use in pronouncing new words.
7. Identify and form compound words.
8. Identify and form contractions ('d, 't, 'll).

B. Determine the meaning of unknown words in context.

*The learner will:

● 1. Use context as a way to determine meaning of an unknown word or the appropriate meaning of a word with multiple meanings.
● 2. Supply synonyms and antonyms for commonly used words.
● 3. Use structural analysis (prefix, base word, suffix, compound words, contractions) in determining word meanings.
● 4. Use glossary, picture dictionary and dictionary to find meanings of unknown word(s).
● 5. Supply the antecedent of a personal pronoun.

C. Recognize or demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

● 1. Recall from passage or story such information as setting, characters, sequence of events and narrator.
○ 2. Choose or supply an appropriate title for a passage.
● 3. Distinguish fact from fantasy and justify response.
● 4. Identify and explain cause-effect relationships.
○ 5. Compare and contrast story characters.
● 6. State the main idea of a passage.
● 7. Predict the outcome of a story.
○ 8. Draw conclusions and make generalizations from information read.
○ 9. Identify the problem and solution in a passage.

D. Employ appropriate strategies for locating and using information.

*The learner will:

1. Alphabetize to the second letter.

● 2. Use book parts and reference sources to obtain information (table of contents, glossary, pictionary/dictionary).
● 3. Interpret information from simple maps and charts.
● 4. Read and follow two-step directions.

E. Apply reading for personal development.

*The learner will:

○ 1. Share favorite portion of a story, book or poem.
○ 2. Select and read a variety of materials independently.

### Writing

F. Use the tools or means for writing.

*The learner will:

1. Maintain comfortable writing posture and position paper correctly for dominant handedness.
2. Write letters with legible manuscript form.
3. Proportion and space letters, words and sentences appropriately.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

G. Use steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

1. Choose topics on which to write.
○ 2. Develop a personal writing vocabulary.
○ 3. Use spontaneous spelling in prewriting and composing.
● 4. Recognize and produce expressive and persuasive writing in descriptions of persons and objects; stories with at least three sentences; poems and social notes.
● 5. Select synonyms for overused words.
● 6. Combine sentences with simple conjunctions.
● 7. Identify correct usage of capital letters: pronoun *I*; first word in sentence; proper names of people, months, days of week and holidays.
● 8. Identify correct punctuation: periods, question marks, exclamation marks, commas (greeting and closing of a letter, date, city and state).
● 9. Identify correct usage for: plurals, irregular verb tenses and inflectional endings (s, er, ing, ed).
○10. Prepare legible, attractive copy of written products to share with others and read written work aloud to special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

○ 1. Demonstrate attention and courtesy by maintaining eye contact with speaker and keeping hands and feet quiet.
○ 2. Evaluate orally presented messages for speaker's purpose and fact or fantasy.
○ 3. Respond appropriately to oral presentations of literature.

I. Use conventions of oral language.

The learner will:

○ 1. Speak loudly and distinctly enough to be heard by audience (whether one person or group).
○ 2. Present and listen to nursery rhymes, stories, personal experiences or imaginary adventures.
○ 3. Use acceptable language patterns and demonstrate an expanded vocabulary in classroom conversation and discussion.
○ 4. Respond to questions fully and appropriately.
5. Share reading experiences by dramatizing, role playing, puppetry or reporting.
○ 6. Send effective oral messages by telephone, tape or videotape.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

○ 1. Relate personal experiences in sequential order.
○ 2. Give or follow oral directions of three or more steps clearly and sequentially.
○ 3. Recall specific information heard by relating main ideas, sequence of events and details.
○ 4. Dictate sentences, paragraphs and stories for recopying and sharing with others.

K. Use and respond to verbal and nonverbal communication.

The learner will:

○ 1. Participate in conversations and discussions by listening without interrupting and volunteering information when appropriate.
○ 2. Use gestures, volume, tone of voice and inflections to clarify meaning of oral messages.
○ 3. Identify speaker signals requiring a response and respond accordingly.

# Language Arts/Reading/English

## LEVEL III

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.

*The learner will:
1. Use context clues as a means of identifying unfamiliar words.
2. Identify and use consonant sounds in initial, medial and final positions and consonant blends in decoding unfamiliar words.
3. Enlarge basic sight vocabulary to include words in Level III of *Missouri Basic Word List*.
4. Identify and use vowel sounds—long, short, digraphs and diphthongs—in decoding unknown words.
5. Divide words into syllables and arrive at approximate pronunciations.
6. Analyze words for prefix, base word and suffix and use to pronounce new words.

B. Determine the meaning of unknown words in context.

*The learner will:
● 1. Use context as a way to determine meaning of an unknown word or the appropriate meaning of a word with multiple meanings.
● 2. Use structural analysis (prefix, base word, suffix, compound words, contractions) in understanding and determining word meanings.
● 3. Use glossary, picture dictionary and dictionary to find meanings of unknown word(s).
● 4. Supply synonyms and antonyms for commonly used words.

C. Recognize or demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:
● 1. Recall from the story such information as setting, characters, sequence of events and narrator.
● 2. Choose or supply the most appropriate title for the story.
● 3. Distinguish fact from fantasy and justify response.
● 4. Identify and explain cause-effect relationships.
● 5. Compare and contrast story characters by assessing feelings, actions, traits and motives.
● 6. State the main idea of a passage.
● 7. Summarize material read.
● 8. Predict the outcome of a story.
● 9. Draw conclusions and make generalizations from material read.
●10. Identify the problem(s) and solution(s) in a story.

D. Employ appropriate strategies for locating and using information.

*The learner will:
1. Alphabetize to the third letter.
● 2. Use book parts and reference sources to obtain information: table of contents, glossary, index, dictionary and telephone directory.
● 3. Interpret information from simple maps and charts.
● 4. Read and follow directions with at least three steps.

E. Apply reading for personal development.

*The learner will:
1. Share favorite portion of a story, book or poem.
○ 2. Develop habits of reading a wide variety of literary selections (both fiction and nonfiction) independently.
○ 3. Share personally-selected books with classmates.

### Writing

F. Use the tools or means for writing.

*The learner will:
○ 1. Maintain comfortable writing posture and position paper correctly for dominant handedness.
○ 2. Write letters with legible manuscript and cursive form.
3. Proportion and space letters and words appropriately.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

G. Use steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

1. Choose topics on which to write.

○ 2. Develop a personal writing vocabulary.

○ 3. Use spontaneous spelling in prewriting and composing.

● 4. Recognize and produce expressive, persuasive and expository writing in descriptions of persons and objects; stories with a beginning, middle and ending; poems (rhymes, haiku, etc.); paragraphs with topic sentences supported by at least two sentences; how-to activities (recipes, directions, instructions for games, etc.); friendly letters.

○ 5. Revise writing to reflect reactions of peers.

● 6. Expand word choice by selecting from synonyms and antonyms.

● 7. Combine sentences with simple conjunctions.

● 8. Identify correct usage of capital letters: pronoun *I*; first word in sentence; proper names of people, months, days of week, holidays; names of cities, states, countries, official titles and organizations; main words in titles.

● 9. Identify correct punctuation: periods, question marks, exclamation marks, quotation marks (for conversation), commas (direct address, items in sequence) and apostrophes in possessives and contractions.

●10. Identify correct usage for: plurals, irregular verb tenses, inflectional endings (er, ing, ed), agreement of simple subjects and predicates, homonyms and confused pairs (a-an, this-that, their-there-they're, your-you're, to-too-two).

○11. Prepare legible, attractive copy of written products to share with others and read written work aloud to special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

○ 1. Demonstrate attention and courtesy by maintaining eye contact with speaker, asking appropriate questions for clarification or additional information and incorporating new words into oral vocabulary.

○ 2. Evaluate orally presented messages for speaker's purpose, fact or fantasy, mood or tone.

○ 3. Respond appropriately to oral presentations of literature.

I. Use conventions of oral language.

The learner will:

○ 1. Speak loudly and distinctly enough to be heard by audience (whether one person or group).

2. Present and listen to nursery rhymes, stories, personal experiences or imaginary adventures.

○ 3. Use acceptable language patterns and demonstrate an expanded vocabulary in classroom conversation and discussion.

○ 4. Respond to questions fully and appropriately.

5. Share reading experiences by dramatizing, role playing, puppetry or reporting.

○ 6. Send effective oral messages by telephone, tape or videotape.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

○ 1. Relate personal experiences in sequential order.

○ 2. Give or follow oral directions of three or more steps clearly and sequentially.

○ 3. Recall specific information heard or read by relating main idea, sequence of events, details, etc., and synthesize related and unrelated concepts to reach conclusions.

○ 4. Dictate sentences, paragraphs and stories for recopying and sharing with others.

K. Use and respond to verbal and nonverbal communication.

The learner will:

○ 1. Participate in conversations and discussions by listening without interrupting, and volunteering information when appropriate.

○ 2. Use gestures, volume, tone of voice and inflections to clarify meaning of oral messages.

○ 3. Identify speaker signals requiring a response and respond accordingly.

# Mathematics

## LEVEL II

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

○ 1. Read and write whole numbers through three digits.
● 2. Compare numbers through three digits.
● 3. Identify the place value of each digit in a number having no more than three digits.
○ 4. Complete and create patterns using objects and pictures.
○ 5. Continue number patterns. Example: count by 2s, 5s and 10s.
6. Informally use the commutative and associative properties of addition.
7. Recognize the zero property of addition.
○ 8. Given a region with a shaded fractional part (halves, thirds and fourths) identify the part shaded.

B. Apply the basic operations in computational situations.

*The learner will:

○ 1. Recall addition and subtraction facts through sums of 18.
● 2. Add 2-digit numbers, with and without regrouping.
● 3. Subtract using two-digit numbers, without regrouping.
4. Mentally find the sum or difference of numbers having no more than two digits.
● 5. Supply the missing number in one-step number sentences using addition and subtraction.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Use estimation strategies to make a reasonable prediction of the answer to a given problem.
○ 2. Decide whether an answer is reasonable by using estimation strategies.

D. Apply the concept of measurement to the physical world.

*The learner will:

● 1. Tell and record time by fifteen-minute intervals using a standard clock.
○ 2. Read a thermometer.
3. Recall in order the days of the week and the months of the year.
4. Interpret the calendar.
○ 5. Measure lengths, weights (mass), volume and capacity using nonstandard and standard units.

E. Recognize geometric relationships.

*The learner will:

○ 1. Identify rectangles, squares, circles and triangles.
2. Relate three-dimensional geometric figures to objects in the world.

F. Use statistical techniques and interpret statistical information.

*The learner will:

○ 1. Construct picture graphs and simple bar graphs.
● 2. Interpret picture graphs and simple bar graphs.

G. Apply problem-solving strategies.

*The learner will:

1. Illustrate a word problem with manipulatives and/or drawings.
2. Create word problems to illustrate classroom situations.
3. Search for and discuss alternative methods of solving a given problem.
● 4. Solve simple word problems involving addition or subtraction.

H. Solve problems in consumer situations.

*The learner will:

○ 1. Identify coins and state the respective values.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

# Mathematics

## LEVEL III

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

- ○ 1. Read and write whole numbers through four digits.
- ● 2. Compare numbers through four digits including use of symbols: <, > and =.
- ● 3. Identify the place value of each digit in a number having four digits or fewer.
- 4. Complete and create patterns using objects, pictures and numerals.
- ● 5. Identify odd and even numbers.
- 6. Informally use the commutative and associative properties of addition and multiplication.
- 7. Recognize the zero property of addition.
- 8. Recognize the multiplication properties of zero and one.
- ● 9. Given a region with a shaded fractional part (halves, thirds and fourths), identify the part shaded.

B. Apply the basic operations in computational situations.

*The learner will:

- ○ 1. Recall from memory addition and subtraction facts through sums of 18.
- ● 2. Add and subtract three-digit numbers, with and without regrouping.
- 3. Mentally find the sum or difference of two-digit numbers without regrouping.
- ● 4. Supply the missing number in one-step number sentences using addition and subtraction.
- ● 5. Add and subtract money amounts using the proper symbols.
- 6. Recall from memory multiplication and division facts through 5 x 9.
- ● 7. Multiply two-digit numbers by one-digit numbers (through the tables of 5), with and without regrouping.
- ● 8. Divide using one-digit divisors (through the tables of 5) that result in one-digit quotients with no remainders.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

- ○ 1. Decide whether the sum or difference of 2 two-digit numbers is reasonable by using estimation strategies.

D. Apply the concept of measurement to the physical world.

*The learner will:

- ● 1. Tell and record time by five-minute intervals using a standard clock.
- ● 2. Use a thermometer to determine and record air temperature using both Celsius and Fahrenheit scales.
- 3. Recall in order the days of the week and the months of the year.
- 4. Interpret the calendar.
- ● 5. Measure lengths to the nearest centimeter and to the nearest inch.
- 6. Weigh objects to the nearest pound and determine mass to the nearest kilogram.
- 7. Measure amounts in units of cups, pints, quarts, gallons and liters.

E. Recognize geometric relationships.

*The learner will:

- ● 1. Identify rectangles, squares, circles and triangles.
- 2. Identify cones, cylinders, spheres, pyramids and cubes.

F. Use statistical techniques and interpret statistical information.

*The learner will:

- ● 1. Construct and interpret picture graphs and simple bar graphs.
- ● 2. Locate points on a grid.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

G. Apply problem-solving strategies.

The learner will:

1. Illustrate a word problem with an appropriate drawing.
2. Write a word problem to illustrate a one-step number sentence.

● 3. Solve one-step word problems.

4. Solve simple ratio and proportion problems using concrete objects.

H. Solve problems in consumer situations.

The learner will:

1. Determine the value of a set of coins in amounts through $1.00.

● 2. Solve word problems involving addition and subtraction of money.

# Science

## LEVEL II

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe the properties of objects, organisms and events by using the five senses.

The learner will:

1. Observe and describe the changes in the states of matter when the amount of heat is increased or decreased.
2. Observe and describe a variety of kinetic and potential energy sources.
3. Observe and describe the distance a toy travels when energy is applied.
4. Observe and describe how a group of objects responds to a magnet.
5. Observe and identify the natural objects in the sky.
6. Observe that the length of a shadow produced by the sun changes during the day.
7. Observe that a set of rocks differs in a variety of ways (shape, size, color, texture).
8. Observe and describe the changes in landform surfaces due to wind, water and land usage.
9. Observe and describe objects according to their position (near, far, up and down).
10. Observe the types of organisms found in various habitats.
11. Observe and describe the temperature of several substances (cold water, hot water, etc.).
12. Observe and describe metric readings from graduated cylinders, thermometers and spring scales.
13. Observe desirable health and nutrition habits.
14. Observe his/her heart rate and respiration rate before and after physical activity.
15. Observe how a mealworm or small insect responds to a variety of stimuli.
16. Observe living and nonliving things.
17. Observe various animals and plants in their appropriate sequences of growth and development.
18. Observe the germination sequence of seeds.
19. Identify the best conditions for seed germination and growth.

B. Classify by grouping objects or events into categories according to similarities or differences.

The learner will:

1. Identify the common properties of a set of different objects, and sequence them according to one selected property.
2. Identify the direction an object will move when it is pushed or pulled.
3. Classify the mass of small objects (metal washer, paper clip, etc.) as being heavier, lighter or equal to a standard mass.
4. Classify pictures of a variety of foods according to the basic food groups.
5. Place common animals into categories (wild, farm, zoo, etc.).
6. Classify a set of seasonal activities according to the four seasons.

C. Measure matter, energy, space and time.

The learner will:

1. Measure daily temperature and precipitation during a one-month period.
2. Measure the height of seedlings.

D. Communicate observations or findings by describing, drawing, recording data and graphing.

The learner will:

1. Describe the cause for change in the states of matter and energy.
2. Describe the changes in matter as an object is heated or cooled.
3. Describe the sources of sounds in an environment.
4. Describe the importance of safe practices when using electrical appliances, outlets and cords.
5. Describe the types of organisms that will be found in various habitats.
6. Describe examples of common wild, farm and zoo animals.
7. Describe the survival value of seasonal adaptations of plants and animals.

8. Describe the short- and long-term effects on the human body of smoking, alcohol and controlled substances.

E. Infer by forming guess(es) based on observations or findings.

The learner will:

1. Infer the types of organisms that will be found in various habitats.
2. Infer what to wear based upon personal observations and weather data.
3. Infer the best conditions for seed germination and growth.

# Science

## LEVEL III

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe the properties of objects, organisms and events by using the five senses.

*The learner will:

1. Observe and identify what plants and animals do to get ready for a new season.
● 2. Identify safe and appropriate responses to a variety of hazardous and emergency situations.
● 3. Identify desirable health and nutrition habits.
4. Observe and describe weather phenomena such as temperature, wind direction and sky cover.
5. Observe and describe how wind and water can change the surface of the earth.
● 6. Observe and identify the natural objects in the sky.
7. Observe the properties of color, texture, particle size and organic matter in various soil samples.
8. Observe and describe the changes in the state of matter when the amount of heat is increased or decreased.
9. Observe examples of solids, liquids and gases and describe their properties.

B. Classify by grouping objects or events into categories according to similarities or differences.

*The learner will:

○ 1. Classify examples of living and nonliving things by categories such as living/nonliving, mammal/nonmammal groups.
2. Classify pictures of a variety of foods according to the basic food groups.
● 3. Order various animals/plants according to their sequence of growth and development.
● 4. Classify a set of seasonal activities according to the four seasons.
● 5. Classify a set of celestial objects according to whether they are producers or reflectors of light.
○ 6. Classify a set of rocks in a variety of ways (shape, size, color, texture).
○ 7. Classify a group of objects according to whether they are attracted to a magnet.
○ 8. Classify a set of objects as conductors or insulators of heat.
○ 9. Classify objects according to their position (near, far, up, down).
●10. Sequence a set of different objects according to one selected common property.

C. Measure matter, energy, space and time.

*The learner will:

1. Estimate and count the same kind of plant in a given population of plants in a small defined area.
2. Determine the amount of precipitation during a given period of time.
○ 3. Measure and compare the amount of water evaporation in containers placed in various environmental conditions (sun, shade, etc.).
4. Measure wind speed under different conditions.
5. Periodically measure the length of a shadow produced by the sun during the school day.
○ 6. Measure the mass of small objects (paper clips, pennies, etc.) by using a two-pan balance and comparing their masses to a standard mass.
7. Measure the temperature of several substances (ice, cold water, hot water, etc.).
○ 8. Measure the distance a toy travels when energy is applied.
○ 9. Measure the strength of a magnet in terms of the number of objects (paper clips, nails, etc.) it will attract and hold.

D. Communicate observations or findings by describing, drawing, recording data and graphing.

*The learner will:

● 1. Draw the germination sequence of seeds, and record and graph the height of the seedlings.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

○ 2. Record and graph his/her heart rate and respiration rate before and after physical activity.

● 3. Record and graph daily temperature and precipitation during a one-month period.

4. Describe and/or draw the launch and landing of a space shuttle.

5. Draw a picture that illustrates the magnetic field of a magnet.

E. Infer by forming guess(es) based on observations or findings.

The learner will:

○ 1. Infer the survival value of seasonal adaptations of plants and animals.

2. Infer the value of planning for emergency conditions.

● 3. Infer the characteristics which will enable organisms to successfully compete in their habitats.

○ 4. Infer the results of various weathering agents on rocks.

○ 5. Infer the importance of safe practices when using electrical appliances, outlets and cords.

○ 6. Infer the cause for change in the states of matter or energy.

7. Infer the source of sounds in an environment.

F. Predict by forecasting future events or conditions based upon past observations or inferences.

The learner will:

● 1. Predict the best conditions for seed germination and growth.

● 2. Predict the types of organisms that will be found in various habitats.

○ 3. Predict what to wear based upon personal observations and weather data.

● 4. Predict the changes in landform surfaces due to wind, water and land usage.

● 5. Predict the effect on pitch when the source of vibration is systematically altered.

● 6. Predict the changes in matter as an object is heated or cooled.

● 7. Predict the direction an object will move when it is pushed or pulled.

# Social Studies/Civics

## LEVEL II

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Geography

A. Demonstrate knowledge of place geography.

The learner will:
1. Match maps with real places or photographs.
2. Identify types of natural features (continents, oceans, rivers, islands) and man-made features, the symbols of which are identified in the map's key.
3. Describe characteristics of such places as farms, cities, shopping centers and residential areas.

B. Demonstrate an understanding of relationships between people and their surroundings.

The learner will:
1. Describe how people use the environment of the local community.
2. Recommend ways people could take care of their environment while they use it.

C. Demonstrate an understanding of spatial relationships.

The learner will:
1. Explain why places in home and school settings are located where they are and tell what might happen if the locations were changed. (For example, what would happen if some school playground space were taken for classrooms.)

D. Use map-reading and map-making skills.

The learner will:
1. Locate places on maps using simple verbal directions (right, left, in front of, behind, etc.).
2. Interpret simple maps, using knowledge of terms of directions, distance and size (near, far, large, small, long, short, narrow, wide).
3. Construct simple maps of places like the classroom or playground.
4. Communicate how to go from one place to another in the school.

### History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

The learner will:
1. Interpret simple time lines using their own experiences.
2. Place events and people studied in chronological order. (1)
3. Predict causes and consequences of events discussed in class or experienced by students.
4. Compare activities of today pertaining to travel, communications, work, school and family life with those activities as they were carried out in the past.

F. Understand how people's positions and experiences influence their views of events.

The learner will:
1. Describe differences in ways people view specific situations depending upon their unique positions and experiences.

### Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:
1. Identify examples of democratic decision making.
2. Propose rules that provide order and fairness in the classroom.
3. Identify ways in which rules and laws help prevent conflicts.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:
1. Distinguish between making rules and enforcing rules.
2. Identify major officials studied in class and describe what they do.

---

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

1. Respect the rights of others and accept responsibilities.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

1. Exhibit cooperation, compromise and responsible behavior in decision-making discussions.
2. Participate constructively in decision-making discussions.
3. Identify groups or individuals with power to bring about change in the school and community.
4. Participate constructively in bringing about some desired change in the classroom.

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

1. Identify examples of how what one person wants to do may need to be restricted for the good of others in the home, school and community.

L. Apply analytic skills to political messages and discussions.
No Learner Outcome is suggested by the state for this level.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

1. Give examples of wants in the classroom (supplies, time, etc.) that may not be satisfied because of scarcity of resources.
2. Identify opportunity costs or trade-offs as individuals, families or communities make choices in economic decision situations. (2)

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

1. Identify the resources needed in producing familiar goods and services.

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

1. Identify kinds of money (coins, currency and checks).
2. Identify goods and services that individuals and households purchase and produce.
3. Identify ways households obtain income to purchase goods and services.

P. Understand relationships among supply, demand, price and quantity of goods and services.

The learner will:

1. Predict whether high or low prices are likely in real-life situations (e.g., Mary has lots of lemonade to sell on a cold day).

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

No Learner Outcome is suggested by the state for this level.

R. Understand principles related to trade (personal, regional or international).

The learner will:

1. Identify examples of exchange and how both parties may benefit from it.
2. Contrast exchange using money with exchange using barter, and demonstrate in the process how money facilitates exchange.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify basic emotions (joy, sadness, fear, loneliness, anger, guilt, shame, satisfaction), their causes and likely consequences in specific situations.
2. Indicate how children learn (a) skills used daily, (b) attitudes toward experiences in daily life and (c) ways of behaving in various settings.
3. Describe how the actions of a group influence individuals in the group.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

1. Indicate how various human needs are met by family, other people and organizations in the local community.
2. Describe how human needs are met at the family and community levels in other cultures studied.

U. Understand variations among cultures in their belief systems, institutions and social structures.

No Learner Outcome is suggested by the state at this level.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

1. Draw inferences from various sources: simple tables, observations, photographs, works of art, stories and interviews.

## Notes

(1) Events and people studied may include those found in stories, films, classroom events, holidays studied, etc.

(2) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Taking a longer recess means giving up all or part of music or art class. Determining trade-offs involves considering the things you choose not to have to get something. The best of the alternatives one foregoes when making a choice is the "opportunity cost" of choosing something. Opportunity cost is, therefore, the next best alternative when scarce resources are used for one thing rather than another. For example, the opportunity cost of buying baseball cards may be the candy bar, the gum or the soda, whichever you consider the best alternative. Similarly, the opportunity cost of a longer recess would be the music or art missed, whichever is your favorite class—not both. Determining opportunity cost involves considering how the use of resources for one purpose means the loss of an opportunity to obtain something. Teachers are *not* advised to have students distinguish between opportunity costs and trade-offs because there is so much overlap in their meaning.

# Social Studies/Civics

## LEVEL III

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Geography

A. Demonstrate knowledge of place geography.

*The learner will:
○ 1. Match maps with real places or photographs.
○ 2. Identify places in the local community on appropriate maps.
● 3. Identify types of natural features (continents, oceans, streams, rivers, islands and mountains); man-made features, the symbols of which are identified in the map's key; and political units (towns, cities, states and nations) on appropriate maps or globes.
4. Describe characteristics of such places as oceans, rivers, lakes, farms, cities, shopping centers, residential areas, etc.

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:
● 1. Predict consequences of given changes in a community's population, environment or technology.
2. Describe how people make use of the environment in local communities studied. (1)
3. Recommend ways the environment could be protected while meeting human needs in given situations studied.

C. Demonstrate an understanding of spatial relationships.

*The learner will:
1. Identify and explain types of spatial distributions studied. (2)
● 2. Predict consequences of changes in various spatial interactions. (3)

D. Use map-reading and map-making skills.

*The learner will:
● 1. Locate places on maps using simple grids or verbal directions such as up, down, north, south, east and west.
● 2. Interpret simple maps, using knowledge of direction, distance, size, common map symbols and other symbols explained in the legend.
○ 3. Construct simple maps of the local area (classroom, playground, neighborhood, town).
○ 4. Communicate clearly how to go from one place to another in the school or neighborhood using verbal directions and a hand-drawn map.

### History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

*The learner will:
1. Interpret time lines.
2. Place events and people studied in chronological order.
3. Identify and explain causes and consequences of events studied.
● 4. Compare activities of today pertaining to travel, communications, work, school and family life with those activities as they were carried out in the past.
5. Compare events of the past with similar events of today (e.g., coming of Pilgrims in 1620 with coming of immigrants today).

F. Understand how people's positions and experiences influence their views of events.

*The learner will:
○ 1. Describe differences in how two people perceive and judge an event, and explain why their perceptions and judgments differ.

### Government (Civics)

G. Understand and apply basic principles of our political system.

*The learner will:
● 1. Identify examples of democratic decision making.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

2. Propose rules that provide order and fairness in group situations.
3. Identify ways in which rules and laws help prevent conflicts.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

1. Distinguish among making rules, enforcing rules and interpreting rules.

• 2. Identify major offices, activities and locations of three levels of government: local, state and national.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

1. List and explain rights guaranteed to citizens.
2. Identify responsibilities individuals have as American citizens.
3. Compare rights and responsibilities of people living in colonial times with those of people living today.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

• 1. Identify examples of cooperation, compromise and responsible behavior in decision-making discussions.

○ 2. Participate constructively in decision-making discussions (pay attention, keep comments relevant to the issue, be sensitive to what others say, etc.).

3. Identify groups or individuals with authority to bring about changes in the school and community.

○ 4. Participate constructively in bringing about some desired change in the school, community or society.

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

• 1. Identify examples of how what one person wants to do in the home, school or community may need to be restricted for the good of others.

L. Apply analytic skills to political messages and discussions.

The learner will:

1. Distinguish between fact and opinion in information.
2. Evaluate claims made in advertisements.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

1. Give examples of wants in homes and communities that may not be satisfied because of scarcity of resources.

• 2. Identify opportunity costs and trade-offs in choices made by individuals, families or communities in economic decision situations. (4)

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

• 1. Identify and distinguish among the three main categories of resources needed to produce goods and services: natural resources, human resources and capital resources. (5)

2. Identify costs and benefits of specialization.
3. Explain productivity and why it is important. (6)

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

1. Identify kinds of money used in this country (coins, paper currency, checking deposits).

• 2. Identify sources of income for households (wages, interest, rent, profit) and examples of goods and services purchased by families.

P. Understand relationships among supply, demand, price and quantity of goods and services.

The learner will:

1. Predict whether high or low prices are likely in real-life situations (e.g., Mary has lots of lemonade to sell on a cold day).

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

No Learner Outcome is suggested by the state for this level.

R. Understand principles related to trade (personal, regional or international).

The learner will:

1. Identify examples of exchange and how both parties may benefit from it.
2. Contrast exchange using money with exchange using barter, and demonstrate in the process how money facilitates exchange.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify basic emotions (joy, sadness, fear, loneliness, anger, guilt, shame, satisfaction), their causes and likely consequences in specific situations.
2. Indicate how children learn (a) skills used daily, (b) attitudes toward experiences in daily life and (c) ways of behaving in various settings.
3. Describe how the actions of a group influence individuals in the group.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

● 1. Indicate how various human needs are met by family, other people and organizations in the local community.
○ 2. Compare how human needs are met at the family and community level in other cultures studied with how they are met in the student's community.

U. Understand variations among cultures in their belief systems, institutions and social structures.

No Learner Outcome is suggested by the state for this level.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

1. Identify appropriate resources for collecting information about the local community and its history.

● 2. Draw inferences from various sources: simple tables, observations, photographs, works of art, stories and interviews.

## Notes

(1) In this and several other learner outcomes, the word "studied" is used as a signal that the specific content to which the objective applies is left to the local school district or classroom teacher.

(2) "Spatial distributions" refers to patterns of how various things and places are located in relation to each other: chalkboards on walls, desks on floors of classrooms, playgrounds by school buildings, suburbs surrounding cities, etc.

(3) "Spatial interactions" refers to interactions of people in different places resulting from communication and transportation linkages. Test items for this key skill will ask students to predict consequences of changes in specific spatial interactions, such as a new road or bridge that connects two communities or radio coming to an isolated area. The term "spatial interactions" itself will not be used in the items.

(4) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Taking a longer recess means giving up all or part of music or art class. Determining trade-offs involves considering the things you choose not to have to get something. The best of the alternatives one foregoes when making a choice is the "opportunity cost." Opportunity cost is, therefore, the next best alternative when scarce resources are used for one thing rather than another. For example, the opportunity cost of buying baseball cards may be the candy bar, the gum or the soda, whichever you consider the best alternative. Similarly, the opportunity cost of a longer recess would be the music or art missed, whichever is your favorite class—not both. Determining opportunity cost involves considering how the use of resources for one purpose means the loss of an opportunity to obtain something. Teachers are *not* advised to have students distinguish between opportunity costs and trade-offs because there is so much overlap in their meaning.

(5) "Capital resources" refers to manufactured things (buildings, equipment, machinery, tools, roads, dams, etc.) needed to produce goods or to supply services.

(6) "Productivity" refers to the amount of output per unit of input, usually labor. For example, the number of ornamental pins a team of five students produces in a half-hour is an example of productivity.

# Selected Resources for Levels II and III Language Arts/Reading/English

### Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*A Writing Guide for Missouri Schools, K-12.* Suggests a philosophical framework for the teaching of writing and provides practical suggestions and activities for encouraging student interest and growth in writing. Provides suggestions for integrating writing in all curricular areas.

*Kitchens Are for Kids.* A series of books dealing with nutrition that provide opportunities for students in grades K-3 to apply reading and other language arts skills in the setting of a Bear Family learning principles of nutrition that are essential for physical and emotional well-being.

*A Guide for Children's Literature, K-8.* A resource guide of literature for children—poetry; folk-fairy tales; biography; historical stories; books about weather, seasons and earth, etc. These are suggested on a month by month basis. These books could be read by the teacher to the class; read by children independently; and could serve as a list for parents to provide through the library or as gifts for children.

### Publications and Articles

*Teaching Reading Vocabulary, 2nd ed.* Johnson, Dale D. and Pearson, P. David. Holt, Rhinehart and Winston, 901 North Elm Street, Hinsdale, Illinois 60521

*Teaching Reading Comprehension.* Pearson, P. David and Johnson, Dale D. Holt, Rhinehart and Winston, 901 North Elm Street, Hinsdale, Illinois 60521.

*Perspectives on Writing.* Haley-James, Shirley (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Becoming a Nation of Readers.* The Center for the Study of Reading. University of Illinois, Champaign, Illinois 61821.

*Teaching Oral Communications in Elementary Schools.* Willbrand, Louise and Rieke, Richard.

*Speech Communication for the Classroom Teacher.* Cooper, Pamela J.

*Reading, Thinking and Concept Development.* Harris, Theodore L. and Cooper, Eric J. (eds.) The College Board, Box 886, New York, New York 10101.

*Sentencecraft.* O'Hare, Frank. Ginn and Co., P.O. Box 2649, Columbus, Ohio 43216.

### Agencies and Organizations

International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, Delaware 19714-8139.

Missouri International Reading Association. Contact: Betsy Baker, Columbia Area Career Center, 4203 S. Providence Road, Columbia, Missouri 65203.

National Council of Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

Missouri Association of Teachers of English. Dr. Peter Hasselriis, Treasurer. University of Missouri-Columbia, Columbia, Missouri, 65211.

Speech and Theatre Association of Missouri. Contact: Dr. Dan Curtis, Central Missouri State University, Warrensburg, Missouri 64093.

## Developing and Evaluating Listening/Speaking Skills

Development of listening/speaking skills begin early in the individual's life—to the point that by the time a child enters school, he/she has been employing listening/speaking skills to meet individual needs for some time. This does *not* mean that skills essential for effective listening/speaking should not be extended by carefully planned instructional activities and assessed so that corrective measures can occur. Because listening/speaking skills are not easily assessed by pencil and paper tests, a committee of members of the Speech and Theater Association of Missouri has provided suggestions for assessment of skills at the classroom level.

Evaluation of exit competencies in attentive, critical listening skills at Level III should consider that active listening occurs selectively and is appropriate behavior. The student should recognize or identify self in relation to when he/she actively listens. To ask questions, the student uses active listening for recall and thinking. Students should be assessed for immediate recall of small amounts of information and progress to greater amounts. The recall should reinforce independent thinking related to when active listening has occurred. Studies indicate that students in the early stages learn these skills in small group discussion or activities, though listening competencies must be integrated in all communication situations throughout the day (meaning, additionally, one-to-one or one-to-group). Students must be assessed for a number of skills such as "turn-taking" or when to answer the teacher's questions. Nonverbal awareness of when to listen and when to respond must be developed. A student must learn to ask questions and to ask teachers to repeat directions or clarify information.

### Oral Presentations

The following questions should be considered in helping students plan and deliver oral presentations. These could be used in helping students evaluate oral presentations.

Opening: Was the scene or situation clear? Did the speaker state where, when, who, what and how?

Content: Was the subject meaningful to the speaker and did he/she demonstrate knowledge that was interesting and appropriate to the audience?

Organization: Was the sequence of ideas presented related? Was the material interesting and/or creative?

Delivery: Did the facial expressions, voice, body movement and gestures emphasize and support the message?

Total effectiveness: What was the audience response?

### Listening

Sample Checklist

1. _____ Attends and/or listens actively.
    a. _____ In small groups w/peers and teacher.
    b. _____ One-to-one/peers.
    c. _____ One-to-group as formal audience participant.
2. _____ Asks questions for clarification.
3. _____ Asks questions for restatement of messages.
4. _____ Responds to direct questions when asked to answer.
5. _____ Responds to questions voluntarily.
6. _____ Responds "in-turn" in interactions.
7. _____ Discriminates among sounds in words.
8. _____ Discriminates among sounds in the environment.
9. _____ Identifies six basic emotions of others.
    a. _____ Fear
    b. _____ Anger
    c. _____ Happiness
    d. _____ Surprise
    e. _____ Disgust
    f. _____ Sadness

NOTE: Listening skills should be integrated throughout the curriculum. Therefore, this checklist should be applicable to any subject matter lesson, e.g., social studies, language arts, math, science, art, music, etc.

# The Missouri Basic Word List

The Missouri Basic Word List, a group of high-frequency use words needed in many subject areas, can serve as a sight vocabulary and as a source of spelling words for students. Words for Level III should be taught during grades 1, 2 and 3 and should be in the speaking, listening and reading vocabularies of students by the end of grade 3.

## Level III

a
about
above
across
act
add
addition
address
afraid
after
afternoon
again
age
ago
agree
ahead
aid
air
airplane
alike
alive
all
all right
aloud
almost
along
already
also
always
am
among
an
and
anger

angry
animal
another
ant
any
anybody
anyhow
anyone
anything
anyway
anywhere
apart
apple
April
are
arithmetic
arm
arose
around
arrow
art
as
ask
asleep
at
ate
August
aunt
auto
autumn
awake
away
awful
ax

baby
back
bacon
bad
badly
bag
bake
ball
balloon
banana
band
bang
bank
banker
bar
bare
bark
barn
base
baseball
basket
bat
bath
bathe
bay
be
bead
bean
bear
beat
became
because
become
bed

bedtime
bee
beef
been
before
beg
began
begin
begun
behind
being
bell
belong
below
belt
bend
bent
berry
beside
best
bet
better
between
bid
big
bigger
biggest
bike
bill
bind
bird
birth
birthday
bit

bite
black
blame
blank
blew
blind
block
blood
blow
blue
board
boat
body
boil
bold
bone
book
boot
born
both
bottle
bottom
bought
bow
bowl
box
boy
brand
brave
bread
break
bright
bring
broke

broken
broom
brother
brought
brown
brush
bucket
bud
bug
build
built
bump
burn
burnt
bus
bush
busy
but
butter
button
buy
buyer
buzz
by
cab
cabin
cage
cake
calf
call
calm
came
camel
camp

can
candy
cane
cannot
can't
cap
car
card
care
careful
careless
carload
carrot
carry
cart
carton
case
cast
cat
catch
cattle
cave
cent
center
chair
chalk
change
chart
chase
cheap
check
cheer
cheese
chicken

chief
child
children
choose
Christmas
church
city
clap
class
clay
clean
clear
climb
clock
close
cloth
clothes
clothing
cloud
clown
club
coat
coin
cold
collar
color
comb
come
coming
cone
contest
cook
cookies
cool

corn
corner
cost
cotton
could
count
country
cow
crack
cream
cried
cross
crow
cry
cup
cut
daddy
dairy
dam
dance
dark
dash
date
day
dead
deaf
deal
dear
December
deck
deep
deer
desk
did
didn't
die
dig
dim
dime

dinner
dip
dish
do
doctor
does
doesn't
dog
doing
doll
done
don't
door
dot
down
Dr.
drank
draw
dress
drew
drink
drive
drop
dry
duck
dull
dust
each
ear
early
earn
earth
east
easy
eat
egg
eight
eighteen
eighty

either
eleven
end
enjoy
even
evening
ever
every
everybody
everywhere
exit
eye
face
fair
fall
family
far
farm
farmer
fast
fat
father
February
fed
feed
feel
feet
fell
few
field
fifth
fifty
fight
fill
find
fine
finger
finish
fir

fire
first
fish
fit
five
fix
flag
flew
flies
floor
flower
fly
fold
folks
food
fool
foot
for
forget
fork
forty
forward
found
four
fourteen
fourth
fox
free
freedom
fresh
Friday
friend
frog
from
front
fruit
fry
full
fun

funny
fur
game
gang
garden
gas
gate
gather
gave
geese
get
gift
girl
give
glad
glass
go
goat
God
goes
going
gold
golden
gone
good
goodby
goose
got
grade
grain
grand
grandfather
grandmother
grass
gray
great
green
greet
grew

grind
grocery
ground
grow
guess
gun
had
hair
half
hall
hamburger
hand
handle
hang
happen
happy
hard
harm
has
hat
hate
have
haven't
hay
he
head
hear
heard
heavy
held
hello
help
hem
hen
her
herd
here
hero
herself

hide
high
hike
hill
him
himself
hire
his
hit
hobby
hoe
hog
hold
hole
home
honey
hook
hop
hope
horn
horse
hot
hour
house
how
huge
hundred
hurry
hurt
I
ice
ice cream
icy
if
I'll
ill
I'm
in
inch

Indian
inform
into
is
isn't
it
its
it's
itself
I've
jar
jeans
jelly
jet
job
joy
July
jump
June
just
keep
key
kick
kids
kill
kind
king
kiss
kitten
knew
lady
lake
lamb
lame
lamp
land
lane
large
last

late
lay
lazy
lead
learn
least
leave
led
left
leg
lend
less
let
letter
lick
lie
life
lift
light
like
line
lion
list
little
live
load
lock
log
long
look
lose
lost
lot
loud
love
low
luck
lumber
lunch

mad
made
mail
main
make
man
many
map
maple
March
mark
market
may
May
maybe
me
meal
mean
meat
meet
melt
men
met
might
mile
milk
mill
mind
mine
Miss
Missouri
mix
Monday
money
monkey
month
moon
more
morning

most
mother
mouse
mouth
move
Mr.
Mrs.
Ms.
much
mud
must
my
myself
nail
name
nap
narrow
near
nearly
neat
neck
need
nest
net
never
new
next
nice
night
nine
no
nobody
nod
none
noon
nor
north
nose
not

nothing
now
number
nut
oak
o'clock
of
off
often
oh
oil
okay
old
oleo
on
once
one
only
open
or
other
our
out
outside
oven
over
owl
own
pack
page
pail
paint
pair
pan
paper
park
part
party
pass

past
path
paw
pay
peek
pen
penny
people
person
pet
pick
pie
pig
pin
pink
pipe
pit
place
plan
plant
plate
play
pole
pond
pony
pool
poor
pop
post
pot
pound
price
puff
pull
push
put
rabbit
race
rag

railroad
rain
rake
ran
ranch
rang
rat
rather
reach
read
ready
real
really
red
rent
report
rest
return
rice
rich
rid
ride
right
ring
ripe
road
rock
roll
roof
room
rope
rose
row
rug
run
rush
sack
sad
safe

said
sail
sale
salt
same
sand
sang
sat
save
saw
say
school
sea
seat
see
seed
seek
seem
seen
sell
send
sent
set
seven
she
sheep
sheet
shell
ship
shoe
shop
shore
short
shot
should
show
sick
side
silk

silly
sing
sink
sir
sister
sit
six
sixteen
size
skin
skip
sky
sleep
slide
slip
small
smart
smell
smoke
snake
snap
snow
so
soap
soft
sold
some
something
sometimes
son
song
soon
sorry
sort
sound
south
speed
spell
spend

spent
spoke
spot
spring
stamp
stand
star
start
state
stay
step
still
stone
stop
store
storm
story
stove
street
strong

study
such
sum
summer
sun
Sunday
supper
sweet
swim
swing
table
tag
tail
take
taken
talk
tall
tame
tan
tank

tap
teach
teacher
team
tell
ten
tenth
test
than
thank
that
the
them
then
there
they
thing
think
third
this

those
three
tie
time
tip
to
today
toe
told
tonight
too
took
tooth
top
town
toy
track
train
trap
tree

trick
trip
try
tub
tune
turkey
turn
two
under
understand
unhappy
up
upon
upset
uptown
us
use
very
wag
wagon

wake
walk
wall
want
warm
was
wash
watch
water
way
we
wear
week
well
went
we're
west
wet
we've
what

when
where
white
who
why
wide
wife
will
win
wind
window
winter
wish
with
within
without
woman
won
won't
wood

wool
word
wore
work
world
would
yard
year
yell
yellow
yes
yet
you
you'll
your
you're
zoo

# Selected Resources for Levels II and III Mathematics

## Department Publications

The following Missouri Department of Elementary and Secondary publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*Activity Book for the Missouri Basic Essential Skills Test: Mathematics Objectives;* includes suggested activities for primary grades.

*Basic Math Skills for Missouri Students, K-8.*

## Publications and Articles

*Active Mathematics Teaching*, Good, Grouws, Ebmeier, and Longman, Research on Teaching Monograph Series, New York and London.

*An Agenda For Action: Recommendations for School Mathematics of the 1980's.* National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Applying Arithmetic: A Handbook of Applications of Arithmetic: Final Report.* Usiskin and Bell, National Science Foundation, Washington, D.C. 20402.

*Developing Minds* "Some thoughts about Mathematics and Problem Solving," pp. 97-101. Wirtz, Association for Supervision and Curriculum Development, 225 N. Washington Street, Alexandria, Virginia 22314.

*Helping Children Learn Mathematics.* Reys, Suydam and Lindquist. Prentice-Hall Inc. Englewood Cliffs, New Jersey 07632.

*Keystrokes: Calculator Activities for Young Students.* Reys, et al. Creative Publications Inc., Palo Alto, California 94033.

*Make It Simpler.* Meyer and Sallee. Addison Wesley, 1843 Hicks Road, Rolling Meadows, Illinois 60008.

*Mathematics In Early Childhood.* Payne (ed.). 1975 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Mental Computation and Estimation,* Schoen (ed.), 1986 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Problem Solving in School Mathematics.* Krulik (ed.), 1980 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Project Plus, Problem Solving Materials.* Price Laboratory School, Cedar Falls, Iowa 50613-3593.

*Teacher Made Aids for Elementary School Mathematics* (Volume 2). Reesink, (ed.). National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Teaching Mathematics in the Elementary School.* Fuys and Tischler, Little, Brown and Company, Boston, Massachusetts 02125.

*The Arithmetic Teacher.* "Research on Problem Solving: Implications for Elementary School Classroom." November, 1977. pp. 40-44. Suydam and Weaver.

*The Mathematical Sciences Curriculum K-12: What is Still Fundamental and What is Not.* Conference Board of the Mathematical Sciences. National Science Foundation, Washington, D.C. 20402.

## Video Tape Series

*It Figures* (1982)—A state-owned series of 28 twelve to fifteen minute video programs developed by the Agency for Instructional Technology dealing with mathematics skills for fourth grade but appropriate for other levels. Available at state cost from the Academic Support Center, University of Missouri-Columbia, 505 E. Stewart Road, Columbia, Missouri 65211.

*Math Works* (1985)—A series of 28 video tapes dealing with geometry, problem-solving, reasoning, etc. Aimed at fifth grade but appropriate for other levels. Agency for Instructional Technology, Box A, Bloomington, Indiana 47402.

## Agencies and Organizations

Missouri Council of Teachers of Mathematics
Membership: K-12 Mathematics Teachers
Publication: MCTM Bulletin
Contact: Bob Buss (Parkway School District)

National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.
Membership: K-12 Mathematics Teachers
Publication: *The Arithmetic Teacher*
*The Mathematics Teacher*
NCTM Bulletin

# Selected Resources for Levels II and III Science

### Department Publications

*Science Objectives for Missouri Students, K-6.* A guide to assist local school districts in the management of science instruction, kindergarten through grade six. (1984) Available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

### Publications and Articles

*Learning With Otis.* A free set of regular publications which includes teacher's activity book, posters and four issues of the Notes From Otis newspaper in classroom quantities. Forthcoming issues will be cross referenced with the state core competencies. Missouri Department of Conservation, Education Unit, P.O. Box 180, Jefferson City, Missouri 65102.

*Missouri Conservation Frontiers: A Conservation Action Program.* An activities and award program that promotes school and community hands-on activities both in and out of school. Missouri Department of Conservation, Education Unit, P.O. Box 180, Jefferson City, Missouri 65102.

*Science Fairs and Projects.* This publication answers your questions about science fairs and lists resources. (Write for catalog.) NSTA Special Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Supplement of Science Education Supplies.* A directory of over 300 firms that manufacture/distribute products for the science classroom. (Write for publications catalog.) NSTA Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Starwalk.* A validated Title IV-C comprehensive earth/space science program for grades three through five. Contact: Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201.

*Terrestrial Natural Communities in Missouri.* Department of Natural Resources, Public Affairs Office, P.O. Box 176, Jefferson City, Missouri 65102. (Write for listings of additional publications, teacher workshops and other services.)

### Video Tape Series

*Agency for Instructional Technology Catalog of Educational Materials 1986.* (AIT) The catalog contains materials and programs for science and the other core competency areas. Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*Audiovisual and Literature Catalog.* The catalog contains many free loan films, tapes, computer programs and publications appropriate for K-12 science. Missouri Department of Health, P.O. Box 570, Jefferson City, Missouri 65102.

*What I Usually Eat.* An example of a science/nutrition microcomputer program for grades three through six which was produced by the National Dairy Council and is available on free loan basis from Films and Literature, Missouri Department of Health, P.O. Box 570, Jefferson City, Missouri 65102.

### Agencies and Organizations

Jet Propulsion Laboratory, Education Outreach, 4800 Ash Grove Drive, Pasadena, California 91109. Mail stop 520-100. (818) 354-6916. Provides extensive earth and space science instructional materials and resources. Write for catalog.

Missouri Botanical Gardens, P.O. Box 299, St. Louis, Missouri 63166. Write for a listing of publications, programs, educational tours and speakers on science topics for grades 2 and 3.

Missouri Cooperative Extension Service. The extension service may have several science activities developed for other programs which would be useful in science classes. Check for the local office in your phone book.

Missouri Department of Conservation, Education Section, P.O. Box 180, Jefferson City, Missouri 65102. Provides extensive conservation, environmental and outdoor skills education publications, audiovisuals, inservice teacher training workshops, consultant assistance and other services for grades K-12. Contact your regional conservation education consultant and/or outdoor skills specialist or write to the Education Section.

Missouri Department of Natural Resources, Office of Public Affairs, P.O. Box 176, Jefferson City, Missouri 65102. (314) 751-3434. Provides instructional materials, teacher training workshops and other services for elementary schools.

Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201. (314) 875-8782. The Facilitator Center has many validated programs in science, grades K-12. Write or call for the catalog entitled *Educational Programs that Work*. Annually, this catalog is sent to building principals.

National Science Teachers Association, 1742 Connecticut Ave., NW, Washington, D.C. 20009. Write for publications list.

Rural Electric Cooperative. Many rural electric cooperatives provide materials useful in science programs. Check for the local office in your phone book if your area is served by a rural electric cooperative.

St. Louis Science Center, Education Director, 5050 Oakland Ave., St. Louis, Missouri 63110. (314) 289-4409. The center provides several training programs and a variety of instructional materials.

# Selected Resources for Levels II and III Social Studies

## Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*BEST Activity Book: Government/Economics Objectives.* 1977. Includes activities for primary grades.

*Guide to Social Studies Curriculum Development for Missouri Educators.* 1980. Goals, objectives and strategies to help educators improve their K-12 social studies programs.

*Missouri in the World.* 1986. Strategies for teaching Missouri students about their state's relationship with other cultures.

*The Social Studies Basic Skills Connection.* 1982. Practical strategies and activities for teaching basic skills in conjunction with the social studies content.

## Publications and Articles

### General

*Learning.* A magazine appearing monthly during the school year produced by The Learning Institute, P.O. Box 2580, Boulder, Colorado 80322.

*Social Education.* The monthly journal of the National Council for the Social Studies, 3501 Newark St., NW, Washington, D.C. 20016.

*The Social Studies.* A bimonthly magazine produced by Heldref Publications, 4000 Albemarle St., NW, Washington, D.C. 20016.

### Geography

*Guidelines for Geographic Education: Elementary and Secondary Schools.* Available from The National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

*Map and Globe Skills: K-8 Teaching Guide.* Winston, Barbara J. 1984. Available from National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

### Government/Civics

*The Rights and Responsibilities of Citizenship in a Free Society: A Law-Oriented Curriculum Guide, K-12.* Produced by The Missouri Bar, P.O. Box 119, Jefferson City, Missouri 65102.

### Economics

*Curriculum Guide to Missouri Core Competencies in Economics.* Produced by and made available from the Center for Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211.

*A Framework for Teaching The Basic Economics Concepts.* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: Primary Level (Grades 1-3).* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Zooconomy.* An economics unit for elementary grades. Produced by and made available from the Center for Economic Education, University of Missouri-St. Louis, 8001 Natural Bridge, St. Louis, Missouri 63121.

### Other Social Studies Competencies

There are elementary textbooks, some of which serve better than others, that present information on causes and consequences of various emotions, on how people learn, on how human needs are met in this and other cultures and on how to draw inferences from various sources of information. In addition, educational psychology books have information on how people learn—classical conditioning, modeling, trial-and-error, reinforcement theory, etc. Ways of learning could be discussed with students while they are involved in experiences that are examples of those types of learning. Finally, don't overlook quality children's literature, which may show how families and community groups may help meet people's needs. Librarians may be good sources of information. Moreover, the April or May issue of *Social Education*, the journal of the National Council for the Social Studies, will include annotated lists of books identified as especially good for social studies.

## Video Tape Series

*Trade-offs.* A series of twelve video cassette economics programs for grades 3-7 and a teacher's guide designed to help students think through economic problems and increase their understanding of economics. Available from your nearest Center for Economic Education or the Missouri Council on Economic Education.

## Agencies and Organizations

### General

Missouri Council for The Social Studies and MSTA Department of Social Studies.

Both groups sponsor state meetings twice a year and produce newsletters. Since neither group has a permanent address, contact the office of the Curriculum

Consultant for Social Studies of the Missouri Department of Elementary and Secondary Education.

National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016. (202) 966-7840.
Produces the journal *Social Education*, which includes practical and classroom ideas for all levels; books and booklets for social studies teachers; how-to-do-it pamphlets; and sponsors an annual social studies convention.

Social Science Education Consortium (SSEC), 855 Broadway, Boulder, Colorado 80302.
The SSEC has produced many excellent resource books for teachers. Write for a catalog.

Social Studies Development Center, Indiana University, 2805 East 10th Street, Bloomington, Indiana 47405. (812) 335-3584.
The center houses the ERIC Clearinghouse for Social Studies. It also produces two newsletters, free for school buildings: *News and Notes on the Social Sciences* and *Keeping Up: News Bulletin of the Clearinghouse for Social Studies/Social Science Education.*

### Geography

National Council for Geographic Education. Western Illinois University, Macomb, Illinois 61455.
Holds an annual meeting and produces a journal. Recently published *Guidelines for Geographic Education for Elementary and Secondary Schools*. (Available at low cost.)

National Geographic Society, Educational Media Division, Washington, D.C. 20036. (202) 828-5699.
Produces *National Geographic* (for adults) and *World* (for children) magazines and has recently begun producing a free newsletter for educators, *Geography Education Update*.

### Government/Civics

American Bar Association, 750 North Lake Shore Drive, Chicago, Illinois 60611. (312) 988-6056.
The ABA's Special Committee on Youth Education for Citizenship produces the magazine for teachers *Update on Law-Related Education* and such newsletters as *LRE Project Exchange* and *LRE Report: What's Happening in Law-Related Education*.

The Missouri Bar Advisory Committee on Citizenship Education, P.O. Box 119, Jefferson City, Missouri 65102. (314) 635-4128.
The Missouri Bar Advisory Committee on Citizenship Education, a joint program of The Missouri Bar, the Missouri Department of Elementary and Secondary Education, and the University of Missouri-Columbia, was established to help teachers understand and teach about the legal system. The committee produced a curriculum guide and other resources; operates an A-V lending library; assists with workshops and technical assistance; helps classroom teachers obtain attorneys as resource people; and has a free newsletter.

### Economics

The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016. (212) 685-5499.
Produces many materials for teachers of all levels. Write for a free catalog

The Missouri Council on Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211. (314) 882-3803.
Coordinates a network of Centers for Economic Education to help elementary and secondary teachers understand and teach important ideas from economics. Contact the nearest center in your area for available materials and services: University of Missouri-Columbia, University of Missouri-St. Louis, Rockhurst College, Southeast Missouri State University, Southwest Missouri State University, Drury College, Northwest Missouri State University and Missouri Western State College. The centers are equipped to help local districts and teachers in their efforts to teach economics core competencies.

# LEVELS
# IV-V-VI

# Language Arts/Reading/English

## LEVEL IV

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

## Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.

*The learner will:

1. Use contextual clues as a means of identifying unfamiliar words.
2. Enlarge basic sight and meaning vocabulary to include words in Level VI of *Missouri Basic Word List*.
3. Divide words into syllables and arrive at approximate pronunciations.
4. Use structural analysis (prefixes, suffixes, inflectional endings, compounds, etc.) to determine pronunciations of unknown words.
5. Use dictionary and pronunciation key to decode words and select appropriate meanings.

B. Determine the meaning of unknown words in context.

*The learner will:

• 1. Use contextual clues from sentence or paragraph and/or dictionary to determine meaning of new words and the appropriate meaning of words with multiple meanings.
• 2. Use structural analysis (prefix, base words and suffix) in understanding and determining word meanings.
• 3. Supply and identify synonyms and antonyms for commonly used words.

C. Recognize or demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

• 1. Recall from a passage or story such elements as setting, characters, sequence of events and narrator.
• 2. Identify the author's purpose.
• 3. Identify and explain cause-effect relationships.
• 4. Compare and contrast story characters by assessing feelings, actions, traits and motives.
• 5. State the main idea of a passage.
• 6. Summarize material read.
• 7. Predict the outcome of a passage.
• 8. Draw conclusions and make generalizations from material read.
• 9. Identify the problem(s) and solution(s) in a passage.
•10. Recognize and explain exaggeration, similes and metaphors.
11. Identify characteristics of: tall tales, fables, poetry, biography and autobiography.

D. Employ appropriate strategies for locating and using information.

*The learner will:

• 1. Select and use appropriate reference sources to obtain information: dictionary, encyclopedia, textbooks, trade books, atlas and telephone directory.
• 2. Use book parts to locate information: table of contents, index, glossary and guide words.
• 3. Interpret and apply information from maps, charts, time lines, tables, diagrams and graphs.
○ 4. Use skimming and scanning for locating information.
○ 5. Demonstrate effective test-taking strategies.
• 6. Follow multistep directions.

E. Demonstrate the value of reading for personal development.

*The learner will:

○ 1. Select and share an increasing variety of reading materials.
○ 2. Choose reading when given alternatives during leisure time.

## Writing

F. Use the tools or means for writing.

*The learner will:

○ 1. Write all cursive letters legibly with reasonable speed.
○ 2. Use appropriate margins and maintain neatness in written assignments.
3. Use dictionary and/or thesaurus as needed in writing.

---

*Key skills to be included in the State Assessment are designated by the symbol "•." Key skills to be assessed locally are designated by the symbol "○."

G. Use steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

1. Explore ideas orally with partners or in groups.
● 2. Produce various forms of writing: paragraphs with topic sentences and supporting details, short stories, poems, autobiographies, informal letters, journals and simple reports.
● 3. Revise writing to reflect reactions of peers.
● 4. Edit writing for spelling.
● 5. Edit writing for capitalization: names and titles of persons, geographic names, main words in titles and first words of a quote.
● 6. Edit writing for punctuation: end punctuation, commas for words in series, introductory phrase or clause and last name written first.
● 7. Edit written work for correct usage: subject-verb agreement, run-on sentences, sentence fragments, shifts in verb tense, confused pairs (their-there, to-too-two), double negatives and correct pronoun forms.
○ 8. Prepare legible, neat copy of written products to share with others, and read written work aloud to special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

○ 1. Demonstrate attention and courtesy by maintaining eye contact with speaker and asking questions for clarification and/or additional information at appropriate time.
○ 2. Identify speaker's purpose and method of appeal to an audience (exaggeration, bandwagon).
○ 3. Expand personal listening vocabulary to include multiple and specific meanings of words.
○ 4. Respond appropriately to oral presentations of literature.
○ 5. Distinguish between fact and fantasy and justify response.

I. Use conventions of oral language.

The learner will:

○ 1. Relate experiences—real and imaginary—in sequential order through spoken or dramatic form.
○ 2. Expand oral vocabulary from various sources.
○ 3. Use conventional pronunciations for standard English in the classroom.
○ 4. Suggest or portray characters in puppetry, choral reading, classroom drama and storytelling.
○ 5. Make and respond to introductions.
○ 6. Send effective oral messages through various media.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

○ 1. Follow or give multistep directions clearly and sequentially.
○ 2. Recall specific information heard by relating main idea, sequence of events, details, etc., and synthesize related and unrelated concepts to reach conclusions.
○ 3. State and explain personal points of view.
○ 4. Organize and present plays, book reviews and reports to the class.

K. Use and respond to verbal and nonverbal communication.

The learner will:

○ 1. Use verbal and nonverbal communication techniques to convey and clarify messages: pauses, gestures, facial expressions, tone of voice, rate of speech and eye contact.
○ 2. Indicate response to feedback from listeners by giving additional clarification, speaking more loudly or softly or slowing rate of speech.
○ 3. Participate effectively in large- and small-group discussion and decision making: take turns speaking, ask relevant questions and support statements of opinion.

# Language Arts/Reading/English

## LEVEL V

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.

*The learner will:

1. Use contextual clues as a means of identifying unfamiliar words.
2. Enlarge basic sight and meaning vocabulary to include words in Level VI of *Missouri Basic Word List* and from content areas.
3. Divide unknown words into syllables and arrive at approximate pronunciations.
4. Use dictionary, thesaurus and pronunciation key to decode words and select appropriate meanings.
5. Use structural analysis (prefixes, suffixes, inflectional endings, compounds, etc.) to determine pronunciation of unknown words.

B. Determine the meaning of unknown words in context.

*The learner will:

● 1. Use contextual clues and/or dictionary to determine meanings of new words and the appropriate meaning of words with multiple meanings.<br>
● 2. Predict and confirm meanings of new words.<br>
● 3. Supply and identify synonyms and antonyms for commonly used words.<br>
● 4. Use structural analysis (prefixes, base words, suffixes) to determine word meanings.

C. Demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

● 1. Recall (in own words) from a story/passage such elements as: setting, characters, narrator and events in chronological order.<br>
● 2. Identify the author's purpose.<br>
● 3. Distinguish between fact and opinion and explain response.<br>
● 4. Identify and explain cause-effect relationships.<br>
● 5. Compare and contrast characters and events in stories to real-life experiences.<br>
● 6. State main idea and identify supporting details.<br>
● 7. Summarize material read.<br>
● 8. Predict the outcome of a story/passage.<br>
● 9. Draw conclusions and make generalizations from material read.<br>
○10. Recognize first-person point of view in a story/passage.<br>
●11. Recognize and explain exaggeration, similes and metaphors.<br>
12. Identify characteristics of: proverbs, tall tales, fables, poetry, biography and autobiography.

D. Employ appropriate strategies for locating and using information.

*The learner will:

● 1. Select and use appropriate reference sources to obtain information: dictionary, encyclopedia, directories, atlas, almanac, library card catalog, newspapers, textbooks and trade books.<br>
● 2. Interpret and apply information found in maps, charts, graphs, time lines, diagrams, tables and schedules.<br>
○ 3. Organize material for own use by simple notetaking and outlining.<br>
○ 4. Use appropriate techniques for independent study: adjust reading rate to purpose and difficulty of material; skim and scan when appropriate; preview selections, chapters, books and computer software.<br>
○ 5. Demonstrate effective test-taking strategies.<br>
● 6. Follow multistep directions.<br>
○ 7. Recognize the significance of copyright data.

E. Demonstrate the value of reading for personal development.

*The learner will:

○ 1. Select and share an increasing variety of reading materials.<br>
○ 2. Choose reading when given alternatives during leisure time.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

## Writing

F. Use the tools or means for writing.

The learner will:

- ○ 1. Write all cursive letters legibly and with reasonable speed.
- ○ 2. Use appropriate margins and maintain neatness in written assignments.
- ○ 3. Use dictionary, thesaurus and library resources in writing.

G. Use steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

- 1. Explore ideas orally with partners or in groups.
- ○ 2. Gather and process information for composing: limit topic, take notes from sources read or from conducted interviews.
- ● 3. Produce various forms of writing: paragraphs with topic sentences and supporting details, journals, stories, poems, autobiographical and biographical pieces, how-to activities, social notes, informal and business letters and simple reports.
- 4. Revise writing to reflect reactions of peers.
- ● 5. Edit writing for spelling.
- ● 6. Edit writing for capitalization: names and titles of persons, geographic names and adjective derivatives, main words in titles of written works and sections of the country, parts of outlines and first word in line of poetry.
- ● 7. Edit writing for punctuation: end punctuation, underlining titles, quotation marks, commas, apostrophes, indentation, hyphen (at the end of a line) and colon.
- ● 8. Edit written work for correct usage: irregular verb forms, subject-verb agreement, confused pairs (its-it's, are-our, who's-whose), run-on sentences and sentence fragments.
- ○ 9. Prepare legible copy of written products to share with others and share aloud with special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

- ○ 1. Demonstrate attention and courtesy by maintaining eye contact with the speaker and asking questions for clarification and/or additional information.
- ○ 2. Identify speaker's purpose and method of appeal to an audience (exaggeration, bandwagon).
- ○ 3. Expand personal listening vocabulary to include multiple and specific meanings of words, specialized vocabulary and figurative language.
- ○ 4. Respond appropriately to oral presentations of literature.
- 5. Tell how voice inflection changes meaning.
- ○ 6. Distinguish between fact and opinion.

I. Use conventions of oral language.

The learner will:

- ○ 1. Relate experiences—real and imaginary—in sequential order through spoken or dramatic form.
- ○ 2. Expand oral vocabulary from various sources.
- ○ 3. Use conventional pronunciations for standard English in the classroom.
- ○ 4. Suggest or portray characters in puppetry, choral reading, oral interpretation, classroom drama and storytelling.
- ○ 5. Make and respond properly to introductions and other rituals in social communication.
- ○ 6. Send effective oral messages through various media.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

- ○ 1. Follow or give oral multistep directions.
- ○ 2. Recall specific information by relating main idea, sequence of events, details, etc., and synthesize related and unrelated concepts to reach conclusions.
- ○ 3. State and explain personal points of view.
- ○ 4. Organize and present plays, book reviews and reports to the class.

K. Use and respond to verbal and nonverbal communication.

The learner will:

- ○ 1. Use verbal and nonverbal communication techniques to convey and clarify messages: pauses, gestures, facial expressions, tone of voice, rate of speech, eye contact and voice inflections.
- ○ 2. Indicate response to feedback from listeners by giving additional clarification, speaking more loudly or softly or slowing rate of speech.
- ○ 3. Participate effectively in large- and small-group discussion and decision making, take turns speaking, ask relevant questions, support statements of opinion and make statements clearly and effectively.

# Language Arts/Reading/English

## LEVEL VI

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.

*The learner will:

1. Divide unknown words into syllables and arrive at approximate pronunciations.
2. Use dictionary, thesaurus and pronunciation key to decode words and select appropriate meanings.
3. Use structural analyses (prefixes, suffixes, inflectional endings, compounds, etc.) to determine pronunciations of unknown words.

B. Determine the meaning of unknown words in context.

*The learner will:

● 1. Use contextual clues and/or dictionary to determine meanings of new words and the appropriate meaning of words with multiple meanings.
● 2. Predict and confirm meanings of new words.
3. Enlarge basic sight and meaning vocabularies to include words in Level VI of *Missouri Basic Word List* and appropriate acronyms.
● 4. Supply and identify synonyms and antonyms for commonly used words.

C. Demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

● 1. Recall (in own words) the story/passage with events in chronological order.
● 2. Identify the author's purpose.
● 3. Distinguish between fact and opinion and justify responses.
● 4. Identify and explain cause-effect relationships.
● 5. Compare and contrast characters and events in stories to real-life experiences.
● 6. Identify or state main idea and supporting details.
● 7. Summarize material read.
● 8. Predict the outcome of a story/passage.
● 9. Draw conclusions and make generalizations from material read.
●10. Identify the story setting, plot, problem and solution.
●11. Recognize differences in first and third-person point of view in a passage.
●12. Recognize and explain exaggeration, similes and metaphors.
○13. Identify characteristics of different types of literary selections: proverbs, tall tales, fables, poetry, etc.
14. Explain differences in connotation and denotation (wild-free, house-home, etc.).

D. Employ appropriate strategies for locating and using information.

*The learner will:

● 1. Select and use appropriate reference sources to obtain information: dictionary, encyclopedia, directories, atlas, almanac, library card catalog, newspapers, textbooks and trade books.
● 2. Interpret and apply information found in maps, charts, graphs, time lines, diagrams, tables, schedules, etc.
○ 3. Organize material for own use and presentations using simple notetaking and outlining.
○ 4. Demonstrate effective test-taking strategies.
● 5. Check validity of sources by comparing information from more than one source (copyright date, etc.).
● 6. Follow multistep directions.
○ 7. Use appropriate techniques for independent study: adjust reading rate to purpose and difficulty of material; skim and scan when appropriate; preview selections, chapters, books and computer software.

E. Demonstrate the value of reading for personal development.

*The learner will:

○ 1. Choose reading when given alternatives for use of leisure time.
○ 2. Select and share an increasing variety of reading materials.
3. Use reading to meet such personal needs as assembling models, etc.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

## Writing

F. Use the tools or means for writing.

The learner will:

○ 1. Write all cursive letters legibly and with reasonable speed.
2. Use appropriate margins and maintain neatness in written assignments.
3. Use dictionary, thesaurus and library resources in writing.

G. Use steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

1. Explore ideas orally with partners or in groups.
○ 2. Gather and process information for composing: determine audience; limit topic; take notes from sources read, from oral presentations or from conducted interviews.
● 3. Produce various forms of writing: journals, stories, original poems, autobiographical and biographical pieces, plays, news stories, editorials, directions to complete a product or reach a destination, social notes, persuasive letters, commercials, advertisements and simple reports.
● 4. Revise compositions to reflect peer suggestions.
● 5. Edit writing for spelling.
● 6. Edit writing for capitalization: names and titles of persons, geographic names and adjective derivatives, main words in title of works and sections of the country.
● 7. Edit writing for punctuation: end punctuation, quotation marks, commas, apostrophes, indentation, and underlining or quoting titles in context.
● 8. Edit written work for correct usage: irregular verb forms, subject-verb agreement, confused pairs (its-it's, are-our, who's-whose, here-hear), double negatives and correct pronoun forms.
○ 9. Prepare legible, attractive copy of written products to share with others, and read written work aloud to special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

○ 1. Demonstrate attention and courtesy by maintaining eye contact with the speaker and asking questions for clarification and/or additional information.
○ 2. Identify speaker's purpose, point of view, and method of appeal to an audience: emotional appeal techniques, propaganda techniques, exaggeration, etc.
○ 3. Expand personal listening vocabulary to include multiple and specific meanings of words, specialized vocabulary, figurative language and literary sound devices.
○ 4. Respond appropriately to oral presentations of literature.
5. Tell how voice inflection changes meaning.
○ 6. Distinguish between fact and opinion and relevant and irrelevant information in oral messages.

I. Use conventions of oral language.

The learner will:

○ 1. Relate experiences—real, imaginary and vicarious—in sequential order through spoken or dramatic form.
○ 2. Expand oral vocabulary from various sources.
○ 3. Use conventional pronunciations for standard English in the classroom.
○ 4. Suggest or portray characters in puppetry, choral reading, oral interpretation, classroom drama and storytelling.
○ 5. Make and respond properly to introductions and other rituals in social communication.
○ 6. Send effective oral messages through various media.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

○ 1. Follow or give oral multistep directions.
○ 2. Summarize information from a videotape, film, television presentation, conversation or discussion.
○ 3. State and justify personal points of view.
○ 4. Organize and present book and play analyses, reports or summaries to the class.

K. Use and respond to verbal and nonverbal communication.

The learner will:

○ 1. Use verbal and nonverbal communication techniques to convey and clarify messages: pauses, gestures, facial expressions, tone of voice, rate of speech, eye contact and voice inflections.
○ 2. Indicate response to feedback from listeners by giving additional clarification, speaking more loudly or softly or slowing rate of speech.
○ 3. Participate effectively in large- and small-group discussion and decision making: take turns speaking; ask well-formulated, relevant questions; engage in effective rebuttal; make statements clearly and effectively; cite specific facts, details and opinions.
4. Give examples of verbal and nonverbal cues that conflict with or detract from orally presented messages.

# Mathematics

## LEVEL IV

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

1. Read and write whole numbers through five digits.
● 2. Compare numbers through five digits using <, > and =.
● 3. Identify the place value of each digit in whole numbers with no more than five digits.
4. Read and write common fractions.
● 5. Identify fractional parts of a whole and of a set.
● 6. Graph points representing halves, thirds and fourths on a number line.
○ 7. Identify and continue patterns created with objects, pictures and numerals.
8. Informally use the commutative and associative properties of addition and multiplication, the zero property of addition and the multiplication properties of zero and one.

B. Apply the basic operations in computational situations.

*The learner will:

● 1. Compute answers requiring use of addition and subtraction of whole numbers.
2. Recall from memory multiplication and division facts through 9 x 9.
● 3. Compute answers requiring use of multiplication of whole numbers (limited to three digits by one digit).
● 4. Compute answers requiring use of addition and subtraction of like fractions.
● 5. Supply the missing number in one-step number sentences involving addition, subtraction, multiplication and division of whole numbers.
6. Mentally compute answers in computational situations.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Use computational estimation strategies to produce reasonable estimates.
○ 2. Use estimation strategies and mental computation to determine if an answer is reasonable.

D. Apply the concept of measurement to the physical world.

*The learner will:

○ 1. Choose an appropriate unit of measure (metric and traditional) to measure length, area, capacity and weight (mass).
● 2. Measure lengths to the nearest half inch and to the nearest centimeter.
3. Weigh objects to the nearest ounce and determine mass to the nearest gram.
4. Estimate measurement.
○ 5. Measure areas and perimeters of irregular and regular regions using nonstandard and standard units.

E. Recognize geometric relationships.

*The learner will:

● 1. Identify lines, rays, line segments and angles.
○ 2. By inspection, identify right angles and determine if the measure of a given angle is less than or greater than the measure of a right angle.

F. Use statistical techniques and interpret statistical information.

*The learner will:

○ 1. Collect, categorize and represent data in chart form.
● 2. Construct and interpret a picture graph or bar graph.

G. Apply problem-solving strategies.

*The learner will:

1. Restate, illustrate or dramatize the meaning of a problem.
○ 2. List the given information necessary to solve a given problem.
3. Create and solve word problems.
4. Solve multistep problems.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

H. Solve problems in consumer situations.

The learner will:

- ○ 1. Determine the value of a set of coins and bills.
- 2. Make change in amounts through $5.00.
- ● 3. Solve problems involving money situations.
- ● 4. Solve problems involving elapsed time in units of hours.

# Mathematics

## LEVEL V

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

1. Read and write whole numbers through seven digits.
- ● 2. Identify the place value of each digit in whole numbers having no more than seven digits.
- 3. Read and write common fractions.
- 4. Read and write decimal fractions through hundredths.
- ● 5. Compare fractions with numerators of one using < or >.
- ○ 6. Identify factors and/or multiples of a given number.
- 7. Compare fractions with a common denominator of 16 or less using <, > or =.
- ○ 8. Compare decimal fractions through hundredths using <, > or =.
- 9. Determine and use different forms of common fractions including equivalent fractions, mixed numbers and improper fractions.
- ●10. Graph points representing fractions and decimals on a number line.
- 11. Use the commutative, associative and distributive properties with whole numbers, fractions with like denominators, and decimals, in simplifying numerical expressions.
- ●12. Identify fractional parts of a whole and of a set.
- 13. Investigate number patterns.

B. Apply the basic operations in computational situations.

*The learner will:

- 1. Compute answers requiring use of addition and subtraction of whole numbers.
- ● 2. Compute answers requiring use of multiplication of whole numbers.
- ● 3. Compute answers requiring use of division of whole numbers.
- ○ 4. Compute answers requiring use of addition and subtraction of decimals.
- ○ 5. Compute answers requiring use of multiplication of decimals.
- ● 6. Compute answers requiring use of addition and subtraction of like fractions with no regrouping.
- ● 7. Supply the missing number in one-step number sentences involving addition, subtraction, multiplication and division of whole numbers and addition and subtraction of decimals.
- ○ 8. Solve simple problems using proportion.
- 9. Mentally compute answers in computational situations.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

- ○ 1. Use computational estimation strategies to produce reasonable estimates.
- ○ 2. Determine if a fraction or decimal is nearer one or zero.
- ○ 3. Use estimation strategies and mental computation to determine if an answer is reasonable.

D. Apply the concept of measurement to the physical world.

*The learner will:

- ○ 1. Choose an appropriate unit of measure (metric and traditional) to measure length, area, capacity and weight (mass).
- ○ 2. Measure lengths to the nearest fourth inch and to the nearest centimeter.
- 3. Weigh objects to the nearest ounce, and determine mass to the nearest gram.
- ● 4. Convert units of measure within a system (metric or traditional) but not between systems.
- 5. Estimate area and perimeter of regular and irregular regions.
- ● 6. Calculate areas and perimeters of rectangles (including squares).

E. Recognize geometric relationships.

*The learner will:

- ● 1. Measure and classify angles as acute, obtuse and right.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

● 2. Identify intersecting, vertical, horizontal, diagonal (oblique), parallel and perpendicular lines.

F. Use statistical techniques and interpret statistical information.

The learner will:

● 1. Construct and interpret picture graphs, bar graphs, charts and tables from given data.
2. Construct and interpret bar graphs, picture graphs, charts and tables from student-generated data.
● 3. Write a ratio to describe data.
○ 4. Find the average (mean) of a set of no more than five, two-digit numbers.

G. Apply problem-solving strategies.

The learner will:

1. Write a number sentence to illustrate a word problem.
● 2. Solve multistep word problems.
3. Restate, illustrate or dramatize the meaning of a problem.
4. List the given information necessary to solve a given problem.
5. Create and solve word problems.

H. Solve problems in consumer situations.

The learner will:

○ 1. Solve problems involving money situations.
○ 2. Solve problems involving elapsed time using hour and half-hour intervals.
3. Make change in amounts through $10.00.

# Mathematics

## LEVEL VI

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

1. Read and write whole numbers through nine digits.

• 2. Identify place value of each digit in whole numbers with nine digits or fewer.

3. Read and write decimal fractions through thousandths and common fractions.

• 4. Compare fractions with numerators of one using $<$ or $>$.

5. Compare fractions with a common denominator of 16 or less using $<$ or $>$.

• 6. Compare decimal fractions through thousandths using $<$, $>$ or $=$.

7. Recognize and use different forms of common fractions including equivalent fractions, mixed numbers and improper fractions.

• 8. Graph points representing fractions and decimals on a number line.

9. Classify any number $< 101$ as prime or composite.

10. Use the commutative, associative and distributive properties with whole numbers, fractions with like denominators, and decimals, in simplifying numerical expressions.

•11. Write a mixed number representing the shaded parts of regions.

•12. Continue a sequence formed by adding a constant number to each previous term (arithmetic sequence).

B. Apply the basic operations in computational situations.

*The learner will:

• 1. Compute answers requiring use of addition, subtraction, multiplication and division of whole numbers.

• 2. Compute answers requiring use of addition, subtraction, multiplication and division of decimals.

• 3. Compute answers requiring use of addition and subtraction of like fractions.

4. Compute answers requiring use of addition and subtraction of fractions with a common denominator of 16 or less.

5. Compute answers requiring the use of multiplication of fractions.

• 6. Apply operations in the correct order in computational situations. Example: $2 + 3 \times 4 = 14$.

• 7. Supply the missing number in one-step number sentences involving addition, subtraction, multiplication and division of whole numbers and addition and subtraction of decimals.

• 8. Solve simple problems using proportion.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Use computational estimation strategies to produce reasonable estimates.

• 2. Determine if a fraction or decimal is nearer one or zero.

○ 3. Use estimation strategies and mental computation to determine if an answer is reasonable.

D. Apply the concept of measurement to the physical world.

*The learner will:

• 1. Choose an appropriate unit of measure (metric and traditional) to measure length, area, capacity and weight.

• 2. Measure lengths to the nearest fourth inch and to the nearest centimeter.

3. Weigh objects to the nearest ounce and determine mass to the nearest gram.

• 4. Convert units of measure within a system (metric or traditional) but not between systems.

• 5. Calculate areas and perimeters of rectangles (including squares).

• 6. Solve problems requiring differentiation between perimeter and area.

E. Recognize geometric relationships.

*The learner will:

1. Use a straightedge, draw an angle with mea-

---

*Key skills to be included in the State Assessment are designated by the symbol "•." Key skills to be assessed locally are designated by the symbol "o."

sure less than 90 degrees (acute), approximate a right angle and draw an angle with measure between 90 degrees and 180 degrees (obtuse).

• 2. Identify intersecting, vertical, horizontal, diagonal (oblique), parallel and perpendicular lines.

F. Use statistical techniques and interpret statistical information.

The learner will:

• 1. Construct and interpret bar graphs, broken line graphs and tables from given data.
2. Construct and interpret bar graphs, broken line graphs, charts and tables from student-generated data.
• 3. Write a ratio to describe data.
• 4. Find the average (mean) of a set of numbers.

G. Apply problem-solving strategies.

The learner will:

1. Write a number sentence to illustrate a word problem.
• 2. Solve multistep word problems.
• 3. Identify unnecessary or missing numerical data in a word problem.
4. Create a word problem of more than one step.

H. Solve problems in consumer situations.

The learner will:

• 1. Solve word problems involving money situations.
• 2. Solve word problems involving elapsed time.
3. Make change in amounts through $20.00.

# Science

## LEVEL IV

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe physical properties and changes of objects, organisms and events by using the appropriate sense(s).

*The learner will:

- ○ 1. Observe conditions in the environment that provide the requirements for life.
- 2. Observe organisms as producers, consumers or decomposers.
- 3. Identify appropriate environmental conditions for particular plants and animals.
- ● 4. Observe the effects of pollution on plants and animals.
- 5. Observe changes in a habitat during a given period of time.
- 6. Observe the different phases of the moon.
- 7. Observe how fossils provide evidence of conditions in ancient times.
- 8. Observe the harmful and beneficial effects of natural forces (wind, water, earthquakes and volcanoes) upon the earth's surface.
- 9. Observe the effects of erosion by wind and by water.
- 10. Observe the effects of freezing and thawing on common objects.
- ●11. Observe and identify weather instruments used to measure and to record weather conditions.
- ●12. Locate major organs (heart, lungs, liver, stomach, brain) in the body using diagrams or models.
- 13. Identify the functions of the major organ systems of the human body.
- ●14. Identify the sensory organs of the human body.
- ●15. Identify examples of common Missouri animals.
- 16. Observe the similarities and differences between plant and animal cells.
- ○17. Observe various kinds of simple machines (pulley, lever, etc.).
- ○18. Observe the behavior of a mass moving over various surfaces on an inclined plane.

B. Classify by grouping objects or events into categories according to similarities, differences and/or relationships.

*The learner will:

- ● 1. Classify objects according to a set of two or three properties.
- ○ 2. Classify circuits as either parallel or series circuits.
- ● 3. Classify controlled substances in relation to the long- and short-term effects on body functions.

C. Measure matter, energy, space and time by selecting and using appropriate instruments.

*The learner will:

- ● 1. Measure the temperature at which matter changes from one state to another.
- 2. Measure the relative (greater or lesser) amounts of kinetic or potential energy in simple systems.
- ● 3. Tell and record time including seconds using a standard clock.
- ● 4. Measure the mass of objects using an equal arm balance.
- ● 5. Measure the temperature of several substances (cold water, hot water, etc.).
- 6. Measure and record metric readings from thermometers, spring scales and graduated cylinders.

D. Communicate observations or findings by describing, drawing, recording data and graphing.

*The learner will:

- ● 1. Describe the properties of color, texture, particle size and organic matter in various soil samples.
- ● 2. Describe living and nonliving things by categories (living/nonliving, mammal/nonmammal).
- 3. Describe examples of common Missouri animals.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

○ 4. Describe the growth rates of a variety of animals.

E. Infer by formulating a guess or interpretation based upon immediate and/or past observations or findings.

The learner will:

○ 1. Infer the variables that affect features shaped by erosion and weathering.

F. Predict by forecasting future events or conditions based upon past observations or inferences.

The learner will:

● 1. Predict objects as being conductors or insulators of heat.

● 2. Predict the number of objects (paper clips, nails, etc.) which would be held by a magnet.

G. Identify the three variables in an investigation: (a) the one held constant, (b) the one which is deliberately manipulated and (c) the one which is recorded as the result of the investigation.

The learner will:

○ 1. Identify the variables in an activity in which the states of matter or energy are changed.

○ 2. Identify the variables in an activity in which matter in an object is heated or cooled.

# Science

## LEVEL V

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe physical properties and changes of objects, organisms and events by using the appropriate sense(s).

*The learner will:

● 1. Observe and identify common constellations.
2. Observe the major features of the objects in the solar system.
● 3. Demonstrate the relative positions of the bodies involved in a lunar eclipse.
● 4. Identify the kinds of weather which follow a high or low barometric reading.
● 5. Observe and identify three major types of clouds (cirrus, stratus and cumulus).
6. Observe several sets of environmental conditions which are inappropriate for particular plants or animals.
● 7. Identify the recommended daily allowances of the major nutrients in a balanced human diet.
● 8. Identify examples of common Missouri plants.
9. Identify a variety of leaves according to shape, vein pattern, edges, size and feel.
○10. Identify the principal function of the major organs of the human body (heart, liver, brain, stomach, lungs, kidney).

B. Classify by grouping objects or events into categories according to similarities, differences and/or relationships.

*The learner will:

○ 1. Classify a variety of energy sources as kinetic or potential.
○ 2. Classify organisms as producers, consumers or decomposers.
3. Classify plants into flowering or nonflowering groups.
● 4. Classify cells as plant or animal cells.
● 5. Classify examples of changes in matter as physical or chemical.
○ 6. Classify the moon's phases.
● 7. Classify machines as simple or compound.

C. Measure matter, energy, space and time by selecting and using appropriate instruments.

*The learner will:

1. Determine the mass and weight of various objects.
2. Measure the mass of small objects (paper clips, metal washers) by using a two-pan balance and comparing their masses to standard mass.
● 3. Measure and record readings from thermometers, spring scales, balances and graduated cylinders.
○ 4. Use weather instruments to measure and record weather conditions and record the measurements.

D. Communicate observations or findings by describing, drawing, recording data and graphing.

*The learner will:

1. Identify the effects of pollution on plants and animals.
2. Identify the changes in a habitat during a given period of time.
● 3. Communicate the short- and long-term effects of smoking, alcohol and controlled substances on the human body.
4. Describe the functions of the sensory organ systems of the human body.
5. Describe the harmful and beneficial effects of natural forces (wind, water, earthquake and volcanoes) upon the earth's surface.
○ 6. Identify and describe how the effects of erosion by wind and by water may be reduced or prevented.
○ 7. Describe the effects of freezing and thawing on common objects.
● 8. Describe how fossils (e.g. dinosaurs and crinoids) provide evidence of conditions in ancient times.
○ 9. Describe the growth rate of a variety of plants under varying conditions.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "o."

E. Infer by formulating a guess or interpretation based upon immediate and/or past observations or findings.

The learner will:

- ● 1. Infer that all matter is composed of small particles.
- 2. Infer what conditions in the environment provide the requirements for life.

F. Predict by forecasting future events or conditions based upon observations or inferences.

The learner will:

- ○ 1. Predict the variables which affect the water retention capacity of various soils.
- ● 2. Predict the variables that affect features shaped by erosion and weathering.

G. Identify the three variables in an investigation: (a) the ones held constant, (b) the one which is deliberately manipulated and (c) the one which is recorded as the result of the investigation.

The learner will:

- ● 1. Identify the variables in an activity in which the amount of heat is increased or decreased in a given state of matter.
- ● 2. Identify the variables in an activity that demonstrate the relationships between surface texture and friction.
- ● 3. Identify the variables that alter the pitches in a simple musical instrument.
- ○ 4. Identify the variables in an activity in which one or more of the bulbs in series and parallel circuits are removed.
- 5. Identify two variables that influence plant growth.

# Science

## LEVEL VI

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe physical properties and changes of objects, organisms and events by use of the appropriate sense(s).

*The learner will:

1. Identify and describe examples of common plants and animals.
● 2. Observe and identify conditions in the environment that provide the requirements for life.
3. Describe the images formed by concave and convex lenses.
4. Observe and record changes that occur in a small defined area during a month.
5. Identify the kinds of weather that follow a low or high barometric reading.
6. Observe and identify constellations that can be seen all year.
● 7. Identify the location of major organs in the body using diagrams or models.
8. Observe the evidence of the lines of force and magnetic field around a magnet.
9. Observe the effect of static electricity.

B. Classify by grouping objects or events into categories according to similarities, differences and/or relationships.

*The learner will:

1. Classify a variety of leaves according to shape, vein pattern, edges, size and feel.
● 2. Classify plants and animals into major groups (green/nongreen, vertebrates/invertebrates, etc.).
● 3. Classify foods representative of the human diet according to their primary nutrient content (carbohydrates, protein, fats, minerals).
● 4. Group organisms as producers, consumers or decomposers.
5. Identify from several sets of environmental conditions those which are appropriate or inappropriate for particular plant or animal life.
● 6. Classify common substances as acids or bases.
○ 7. Classify Missouri minerals or rocks according to their physical and chemical properties (types, hardness, color, reaction to acid).
● 8. Given a group of materials, classify them as conductors or nonconductors of electricity.
● 9. Classify various objects as simple machines or compound machines.
●10. Classify a variety of energy sources as kinetic or potential.
●11. Classify examples of changes in matter as physical or chemical.
12. Classify the harmful and beneficial effects of natural forces (wind, water, earthquakes and volcanoes) upon the earth's surface.

C. Measure matter, energy, space and time by selecting and using appropriate instruments.

*The learner will:

○ 1. Measure a given habitat's Celsius and Fahrenheit temperature during a period of time and compute the average temperature for that time period.
○ 2. Construct and/or use weather instruments to measure and record weather conditions and record the measurements.
○ 3. Measure and record metric readings from thermometers, spring scales, balances and graduated cylinders.
○ 4. Measure the time needed to dissolve a substance in a given amount of hot and cold water.
5. Measure how far a mealworm or small insect travels in one minute.

D. Communicate observations or findings by describing, drawing, recording data and graphing.

*The learner will:

● 1. Identify and explain the requirements for plants to carry on the photosynthetic process.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

● 2. Name, draw and describe the functions of parts of flowering and nonflowering plants.
○ 3. Describe the functions of the major organ systems of the human body.
4. Draw a food chain and food web.
5. Identify and construct a chart depicting the uses of Missouri's major minerals.
○ 6. Identify and describe how the effects of erosion by wind and by water may be reduced or prevented.
7. Describe the major features of the objects in the solar system.
○ 8. Demonstrate the relative positions of the earth, moon and sun during a solar and a lunar eclipse.
9. Describe the spectrum produced when a white light interacts with a prism or diffraction grating.
10. Construct a simple musical instrument to demonstrate pitch and how it may be altered.
11. Describe the difference between mixtures and compounds.
○12. Describe by example a physical and chemical change.
●13. Describe and compare the similarities and differences between plant and animal cells.
●14. List two factors that cause an animal to become an endangered species.
○15. Describe the short- and long-term effects of smoking, alcohol and controlled substances on the human body.
16. Describe the relationship among gravity, mass and weight.
17. Draw and explain cycles such as the water cycle, carbon dioxide cycle and oxygen cycle.

E. Infer by formulating a guess or interpretation based upon immediate and/or past observations or findings.

The learner will:

● 1. Infer from examples of the teeth and mouth parts from a variety of mammals if an animal is a carnivore, an herbivore or an omnivore.
○ 2. Infer the effects of pollution on plants and animals.
○ 3. Infer the reasons for changes in a habitat during a given period of time.
● 4. Infer how fossils provide evidence of conditions in ancient times.
○ 5. Infer the effects of freezing and thawing on common objects.

F. Predict by forecasting future events or conditions based upon past observations or inferences.

The learner will:

● 1. Predict the growth rate of a variety of plants and animals under varying conditions.
● 2. Predict the results of removing an organism from a food chain.
● 3. Predict the effect of removing one or more of the light bulbs in both series and parallel circuits.
○ 4. Predict the relationship between surface textures and friction.
○ 5. Predict future changes, given data on the moon's phases.
● 6. Predict the type of precipitation, given data on temperature and cloud formation.

G. Identify the three variables in an investigation: (a) the ones held constant, (b) the one which is deliberately manipulated and (c) the one which is recorded as the result of the investigation.

The learner will:

○ 1. Identify the variables that influence plant growth, and hypothesize the effects of altering those variables.
● 2. Identify the variables that affect features shaped by erosion and weathering.
○ 3. Determine the variables which affect the water retention capacity of various soils.
● 4. Determine the variables that affect the strength of an electromagnet.
○ 5. Determine the variables that affect the period of a pendulum.
○ 6. Determine the variables that affect the amount of a substance that can be dissolved in a given amount of water.
● 7. Determine the variables that influence the rate of evaporation.
○ 8. Describe the variables for increasing the efficiency of simple machines.

# Social Studies/Civics

## LEVEL IV

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

## Geography

A. Demonstrate knowledge of place geography.

*The learner will:

1. Match maps with real places or with photographs.

● 2. Locate on maps and globes types of natural features (continents, oceans, streams, rivers, islands, peninsulas and mountains); man-made features, the symbols of which are identified in the map's legend; and political units (towns, cities, states and nations).

● 3. Locate the following places on appropriate maps or globes:
   - Missouri and states bordering Missouri
   - St. Louis, Kansas City and Jefferson City
   - The Mississippi and Missouri Rivers
   - The Ozark Highlands
   - North America, South America, Asia, Africa, Europe, Australia, Antarctica
   - Atlantic, Pacific, Indian and Arctic Oceans

● 4. Identify characteristics associated with natural features identified in A-2 above and with types of regions (desert, plains, forest, mountain, arctic, tropical, temperate, urban and rural).

○ 5. Locate on appropriate maps and globes particular regions and places studied in class. (1)

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

● 1. Predict consequences of given changes in the population, environment, technology or living patterns of a community or region. (Examples of types of changes: irrigation in a desert, construction of a dam on a river, the fencing of an open range, etc.).

○ 2. Identify ways people adapt to and affect the environment in different types of regions studied.

3. Identify problems related to people's use of the environment, and describe ways the environment has been protected while meeting human needs.

C. Demonstrate an understanding of spatial relationships.

*The learner will:

1. Identify and explain certain spatial distributions: why cities are located by rivers, why people live close to places of work, why industry is located near power sources, etc. (2)

2. Identify consequences of changes in spatial interactions. For example, what results when communications or transportation linkages among different places are changed? (3)

D. Use map-reading and map-making skills.

*The learner will:

1. Locate places studied on maps using simple grids or verbal directions.

● 2. Interpret simple maps using knowledge of direction (north, northeast, south, southeast, etc.), legends, grid systems and scales.

3. Identify on maps boundaries of areas (cities, counties, states, nations or regions); distinguish places that fall within those boundaries from those that do not.

○ 4. Identify appropriate maps for specific purposes (political, physical, resource, etc.).

5. Construct simple maps related to studies.

## History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

*The learner will:

● 1. Interpret time lines.

2. Identify and explain causes and consequences of events studied.

○ 3. Identify and describe contributions made by people of various ethnic groups to the development of Missouri.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "o."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

4. Identify ways Missouri was important in the westward expansion movement and in the development of the United States.

F. Understand how people's positions and experiences influence their views of events.

The learner will:

1. Contrast how people of different regions perceive and judge events, and explain why their perceptions and judgments differ.

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

● 1. Identify examples of democratic decision making.

2. Propose rules that provide order and fairness in group situations.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

● 1. Distinguish among making rules, enforcing rules and interpreting rules.

2. Identify major offices, major officials, activities and locations of three levels of government: local, state and national.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

1. Compare rights and responsibilities of adults with those of children.

○ 2. Predict consequences that follow when members of a class, family or community fail to carry out their responsibilities.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

○ 1. Identify ways to promote effective group decision making, and act in accordance with those ways: practice courteous behavior, follow rules and established discussion procedures, listen to others, contribute ideas, suggest alternatives, withhold judgment until important facts are known, and accept decisions of the group once a final decision has been made.

○ 2. Identify constructive ways of promoting changes in rules of home, school and community.

3. Identify constructive ways a consumer could seek to redress a grievance at a local store (e.g., a student discovers the milk she bought is sour).

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

○ 1. Identify arguments on both sides of specific issues. (For example, a government wants to restrict hunting of a rare animal; people in a desert area promote tourism by offering dune buggy rides which threaten the desert ecology; a government limits immigration into a city to prevent overcrowding, etc.).

L. Apply analytic skills to political messages and discussions.

The learner will:

● 1. Distinguish between statements of fact and opinion.

2. Recognize instances of persuasive techniques being used in communication.

3. Evaluate claims made in advertisements.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

1. Give examples of wants in homes, schools, communities and regions that may not be satisfied because of scarcity of resources.

● 2. Identify opportunity costs and trade-offs in economic decision situations involving private choices (those of individuals or families) and public choices (those of communities). (4)

3. Use a rational decision-making process when making or analyzing simple personal economic decisions. (At this age level, the process should include identifying alternative decisions and thinking about consequences before making the decision.)

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

● 1. Identify and distinguish among the three main categories of resources needed to produce goods and services (natural resources, human resources and capital resources), and explain how those resources are combined in the productive process. (5)

2. Explain what productivity is and why it is important. (6)

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

1. Explain how and why employment in different industries varies among regions.
- ● 2. Predict consequences of changes affecting productive activities within regions. (For example, what consequences result from the supply of fish in a coastal region becoming much smaller?)

P. Understand relationships among supply, demand, price and quantity of goods and services.

The learner will:

1. Identify or provide examples that demonstrate relationships between price and the quantity of goods and services supplied or demanded. (For example, if the price of bicycles goes down, people will choose to buy more bicycles. If people can receive a lot of money for fish they catch, people will try to catch more fish.)
- ● 2. Identify how the wants of people, what they demand, vary with the season and region.

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

1. Identify factors that contribute to changes in employment and income in regions studied.

R. Understand principles related to trade (personal, regional or international).

The learner will:

- ● 1. Explain why given regions specialize in producing certain goods and services and how trade facilitates this specialization.
- 2. Identify examples of exchanges that occur among regions and how this trade affects output and income. (For example, income earned from the sale of timber in the U.S. Northwest is used to purchase automobiles from the U.S. Midwest and from Japan. Such trade has consequences for the quantity of production and for people's income.)
- 3. Identify costs and benefits of specialization in given situations studied.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify basic emotions (joy, sadness, fear, loneliness, anger, guilt, shame, satisfaction), their causes and likely consequences in specific situations.
2. Indicate how children learn (a) skills used daily, (b) attitudes toward experiences in daily life and (c) ways of behaving in various settings.
3. Describe how the actions of a group influence individuals in the group.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

- ○ 1. Indicate how various human needs are met by family, other people and organizations in regions studied.
- 2. Compare how human needs are met in various cultures studied in class.

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

1. Identify similarities and differences among major ideas, values and attitudes of people from various regions studied in class.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

- ● 1. Identify appropriate resources when given simple questions related to geography or history: maps, encyclopedias, tables, graphs, people with expertise and libraries.
- ● 2. Draw inferences from various sources: simple tables and graphs, observations, photographs, works of art, stories and interviews.

## Notes

(1) In this and several other learner outcomes, the word "studied" is used as a signal that the specific content to which the objective applies is left to the local school district or classroom teacher.

(2) "Spatial distributions" refers to patterns of how various things and places are located in relation to each other: ice in polar regions and in high altitudes; people clustered around places of work and lines of transportation; cities located by rivers, etc.

(3) "Spatial interactions" refers to interactions of people in different places, resulting from communication and transportation linkages.

(4) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Taking a longer recess

means giving up all or part of music, art or history class. Deciding trade-offs involves considering the things you choose not to have to get something. The best of the alternatives one foregoes when making a choice is the "opportunity cost." Opportunity cost is, therefore, the next best alternative when scarce resources are used for one thing rather than another. For example, the opportunity cost of buying baseball cards may be the candy bar, the gum or the soda, whichever you consider the best alternative. Similarly, the opportunity cost of a longer recess would be the music, art or history missed, whichever is your favorite class—not all three. Determining opportunity cost involves considering how the use of resources for one purpose means the loss of an opportunity to obtain something. Teachers are *not* advised to have students distinguish between opportunity costs and trade-offs because there is so much overlap in their meaning.

(5) "Natural resources" refers to land and raw materials used in producing goods and services. "Human resources" refers to the intellectual and physical labor of people used in producing goods and services. "Capital resources" refers to manufactured items (buildings, machinery, tools, roads, etc.) used in producing goods and services. It is more important for students to be able to use these terms meaningfully and correctly than to be able to define them.

(6) "Productivity" refers to the amount of output per unit of input, usually labor. When a factory produces more bicycles in a week with no change in the size of its labor force, productivity has increased.

# Social Studies/Civics

## LEVEL V

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

## Geography

A. Demonstrate knowledge of place geography.

*The learner will:

1. Match maps with real places or photographs.

● 2. Locate types of natural features on maps or globes: continents, islands, peninsulas, streams, rivers, lakes, bays, gulfs, oceans, deltas, straits, mountains, valleys and plains.

● 3. Locate on maps the following places in Missouri and the United States:
- The 50 states
- The Appalachian and Rocky Mountains
- St. Lawrence, Mississippi, Ohio and Missouri Rivers
- Jefferson City, St. Louis, Kansas City, Washington, D.C.

● 4. Locate on maps or globes the following places of the world:
- North America, South America, Europe, Asia, Africa, Australia, Antarctica
- Atlantic, Pacific, Indian and Arctic Oceans
- United States, Mexico, Canada, France, England, Spain, Portugal
- North and South Poles and the equator

5. Identify characteristics associated with different regions in Missouri, the United States and world.

○ 6. Identify on maps and globes places studied and places currently in the news. (1)

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

● 1. Predict consequences of given changes in the population, organization and living patterns, environment, or technology of a community or region. (Examples of types of changes: construction of the Erie Canal, freeing of the slaves, discovery of gold in California, construction of a shopping mall in a small city, etc.)

2. Indicate reasons for the locations of major cities studied.

3. Identify problems related to people's use of the environment, and describe ways the environment has been protected while meeting human needs.

C. Demonstrate an understanding of spatial relationships.

*The learner will:

1. Identify and explain certain spatial distributions: why cities are located by rivers, why people live close to places of work, why industry is located near power sources, etc. (2)

2. Describe or identify consequences of major changes in spatial interactions (communication and transportation linkages), using examples from Missouri's history and the history of the United States from the Age of Discovery up to the Civil War.

D. Use map-reading and map-making skills.

*The learner will:

1. Locate places studied on maps using simple grids or verbal directions.

● 2. Interpret simple maps using knowledge of direction (north, northeast, south, southeast, etc.), legends, grid systems and scales.

3. Identify on maps boundaries of areas (cities, states, nations or regions); distinguish places that fall within those boundaries from those that do not.

○ 4. Identify appropriate maps for specific purposes (political, physical, historical, resource, etc.).

5. Construct simple maps related to studies.

## History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

*The learner will:

○ 1. Interpret and construct time lines.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

● 2. Indicate major causes, major consequences and sequences of major historical events and developments.
  - Discovery and exploration of America
  - American Revolution
  - Making the Constitution
  - Westward migration
  - Civil War

● 3. Describe lifestyles of different groups of people in different time periods of the development of the United States: American Indians, Puritans and Pilgrims, farmers in different regions, immigrants.

● 4. Identify innovations in transportation and communication, and describe their impact on the lives of Americans.

○ 5. Identify and describe contributions made by men and women of various ethnic groups important to the development of the United States.

6. Describe the importance of Missouri in the westward expansion movement and in other facets of United States history.

F. Understand how people's positions and experiences influence their views of events.

The learner will:

● 1. Describe or predict differences in how various people perceive and judge an event, and explain why their perceptions and judgments differ. (For example, colonization was viewed differently by certain Indian tribes and by colonists themselves; the American Revolution was viewed differently by Loyalists and by Sons of Liberty; the Civil War was viewed differently by Abolitionists and by Confederates.)

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

1. Propose rules that provide for order and fairness in group situations.

2. Identify ways in which rules and laws help prevent conflicts.

● 3. Identify examples of democratic processes, and identify rules and laws that promote specific democratic values (freedom, justice, equality, domestic tranquility, general welfare, popular sovereignty, and rule of law).

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

● 1. Identify what is meant by legislative, executive and judicial functions and actions in government.

2. Indicate how major officials (President, governors, legislators and judges) are chosen for office in our system of government.

3. Explain how the different branches of government can restrict actions of each other in the United States system of checks and balances.

4. Explain restraints on government officials (being subject to election, operating under constraints of law, etc.).

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

1. Compare rights and responsibilities of adults with those of children.

● 2. Identify rights and responsibilities individuals have as citizens of the United States.

3. Predict consequences that follow when rights are denied or abused or when citizens fail to carry out their responsibilities.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

○ 1. Identify ways to promote effective group decision making, and act in accordance with those ways: practice courteous behavior, follow rules and established discussion procedures, listen to others, contribute ideas, suggest alternatives, withhold judgment until important facts are known, accept decisions of the group once a final decision has been made.

2. Identify groups or individuals with authority to bring about changes in the school and community.

○ 3. Identify constructive ways of promoting changes in rules of home, school and community.

4. Identify constructive ways a consumer could seek to redress a grievance at a local store (e.g., a student discovers a calculator she bought is defective).

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

● 1. Identify arguments on both sides of a specific issue. (For example: What were arguments on both sides when colonists chose to revolt against England? What were arguments on both sides related to the issue of secession in 1861?)

L. Apply analytic skills to political messages and discussions.

The learner will:

● 1. Distinguish between statements of fact and opinion.

2. Recognize instances of persuasive techniques being used in communication, and describe the techniques used.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

1. Give examples of wants in home, communities and regions that may not be satisfied because of scarcity of resources.

● 2. Identify opportunity cost and trade-offs in economic decision situations involving private choices (those of individuals or families) and public choices (those of communities). (3)

3. Use a rational decision-making process when making or analyzing simple personal economic decisions. At this age level, the process should include identifying alternative decisions, trying to predict and evaluate consequences, making the decision and being able to give reasons to support it.

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

● 1. Identify examples of and use the following terms related to production: "natural resources," "human resources," "capital resources," "technology," "specialization," "productivity" and "investment." (4)

2. Explain how investment in capital and human resources increases productivity.

3. Identify the resources used in a given productive process, and describe variations in the combinations and quantities of the resources that could be used. For example, lots of labor may be used to move furniture without a truck, or a truck may be used with much less labor.

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

1. Identify examples of government revenue (taxes) and expenditures (for defense, roads, etc.); describe their purposes and consequences for households and businesses.

2. Explain options and their consequences regarding current income: using money for buying things, saving, or supplementing current income by borrowing from a bank or savings and loan. Explain the role of financial institutions in the process.

3. Predict consequences of major increases or decreases in household incomes on community businesses, on financial institutions and on government revenue and expenditures.

P. Understand relationships among supply, demand, price and quantity of goods and services.

The learner will:

● 1. Identify or provide examples that demonstrate the relationships between price and the quantity of goods and services supplied or demanded.

2. Predict the direction of price change when given a description of the quantity of an item produced relative to how much consumers want to buy.

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

1. Explain relationships between households and businesses, how households have resources (land or labor) needed by businesses, and how businesses produce goods and services wanted by households.

2. Identify factors contributing to higher or lower levels of employment and total income in a community or region.

R. Understand principles related to trade (personal, regional or international).

The learner will:

● 1. Identify how and why different regions of this nation specialize in the production of goods and services and how trade facilitates this specialization.

2. Identify conditions that facilitate or limit a region's ability to trade (such as ability to produce a surplus, transportation systems, communication systems, etc.), and how ability to trade affects the level of income.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify in given cases conditions leading to

changes in an individual's emotions and the likely consequences.
2. Indicate how people learn and remember skills, attitudes and appropriate behavior for various settings.
3. Identify how membership and participation in a group may influence an individual's behavior and perceptions.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

○ 1. Indicate how various human needs are met by family, local community and national groups and institutions in the United States.
2. Contrast a contemporary institution, such as the family or school, with the institution as it was in the past.

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

1. Identify similarities and differences among major ideas, values and attitudes of people from different cultures studied.
2. Compare how European-Americans and people from Native American cultures differed in their perception and judgment of events in their lives.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

● 1. Identify appropriate resources when given simple questions related to geography or history: maps, tables, graphs, atlases, encyclopedias, direct observations, people with expertise, historical documents, music, works of art and gazetteers.
○ 2. Develop and use a plan for investigating a question, including:
  - defining the question clearly
  - identifying resources needed
  - formulating hypotheses based on data
  - proposing and carrying out ways to test the hypotheses
  - assessing how the question was resolved
● 3. Draw inferences from various sources: simple tables and graphs, observations, photographs, works of art, stories, interviews and primary sources (artifacts, records and documents from the past).

## Notes

(1) In this and several other learner outcomes, the word "studied" is used as a signal that the specific content to which the objective applies is left to the local school district or classroom teacher.

(2) "Spatial distributions" refers to patterns of how various things and places are located in relation to each other: chalkboards on walls, desks on floors of classrooms, playgrounds by school buildings, suburbs surrounding cities, etc.

(3) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Taking a longer recess means giving up all or part of music, art or history class. Deciding trade-offs involves considering the things you choose not to have to get something. The best of the alternatives one foregoes when making a choice is the "opportunity cost." Opportunity cost is, therefore, the next best alternative when scarce resources are used for one thing rather than another. For example, the opportunity cost of buying baseball cards may be the candy bar, the gum or the soda, whichever you consider the best alternative. Similarly, the opportunity cost of a longer recess would be the music, art or history missed, whichever is your favorite class—not all three. Determining opportunity cost involves considering how the use of resources for one purpose means the loss of an opportunity to obtain something. Teachers are *not* advised to have students distinguish between opportunity costs and trade-offs because there is so much overlap in their meaning.

(4) "Natural resources" refers to land and raw materials used in producing goods and services. "Human resources" refers to the intellectual and physical labor of people used in producing goods and services. "Capital resources" refers to manufactured items (buildings, machinery, tools, roads, etc.) used in producing goods and services. "Technology" refers to the processes and knowledge used in producing goods and services. "Specialization" refers to an individual, business, region or country producing a smaller range of goods and services than it consumes. "Productivity" refers to the amount of output per unit of input, usually labor. "Investment" refers to the use of resources by business, individuals or government to increase productive capacity by developing new technology, creating capital resources or enhancing the quality of the work force.

# Social Studies/Civics

## LEVEL VI

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Geography

A. Demonstrate knowledge of place geography.

*The learner will:

1. Match maps with real places or with photographs.

● 2. Locate types of natural features on maps and globes: continents, islands, peninsulas, streams, rivers, lakes, bays, gulfs, oceans, deltas, straits, mountains, valleys and plains.

● 3. Locate the following places in Missouri and the United States on maps:
   - The 50 states
   - The Appalachian and Rocky Mountains
   - St. Lawrence, Mississippi, Ohio and Missouri Rivers
   - Jefferson City, St. Louis, Kansas City, Washington, D.C.

● 4. Locate the following places of the world on maps and globes:
   - North America, South America, Asia, Africa, Europe, Australia, Antarctica
   - Central America and the Middle East
   - England, France, Spain, the United States, Mexico, Canada, the Soviet Union, China, Japan and India
   - North and South Poles and the equator
   - Tropical, temperate and arctic regions

5. Identify basic cultural, physical and economic characteristics of major regions in Missouri and the United States.

6. Identify characteristics associated with different regions on the globe: arctic regions, areas by rivers, mountainous regions, desert regions, densely populated areas, etc.

○ 7. Identify places currently in the news on maps and globes.

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

● 1. Predict consequences of given changes in a community's population, organization and living patterns, environment, or technology. (Examples of types of changes: construction of the Eads Bridge in St. Louis, construction of a shopping mall in a small city, use of mechanized equipment in a farming region, etc.)

2. Indicate reasons for locations of major cities studied. (1)

3. Identify problems related to people's use of the environment, and recommend ways of protecting the environment while meeting human needs.

C. Demonstrate an understanding of spatial relationships.

*The learner will:

1. Identify and explain certain spatial distributions. (2)

2. Describe or identify consequences of major changes in spatial interactions, using examples from Missouri's history and the history of the United States from the Age of Discovery up to the Civil War. (3)

D. Use map-reading and map-making skills.

*The learner will:

1. Find specific places on maps using different kinds of grid systems.

2. Orient self and maps using a compass.

● 3. Draw conclusions from maps, using knowledge of map symbols, legends, grid systems, scales and knowledge of how position on the earth relates to climate.

4. Distinguish among city, state and county on a political map.

○ 5. Select appropriate maps for specific purposes.

○ 6. Construct simple maps of the local area with legend and scale.

### History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

The learner will:

1. Read and construct time lines.

● 2. Indicate major causes, major consequences and sequences of major historical events and developments:
   - discovery and exploration of America
   - American Revolution
   - making the Constitution
   - westward migration
   - Civil War

● 3. Describe the lifestyles of different groups of men, women and children of pre-Civil War United States, and compare to lifestyles of today.

● 4. Identify innovations in transportation and communication, and describe their impact on the lives of Americans.

5. Identify and describe contributions and significance of men and women of various ethnic groups important to the development of the United States and Missouri.

6. Describe the importance of Missouri in the westward expansion movement and in other facets of United States history.

F. Understand how people's positions and experiences influence their views of events.

The learner will:

● 1. Describe or predict differences in how various people perceive and judge an event, and explain why their perceptions and judgments differ. (For example, colonization was viewed differently by certain Indian tribes and by colonists themselves; the American Revolution was viewed differently by Loyalists and by Sons of Liberty; the Civil War was viewed differently by Abolitionists and by Confederates.)

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

● 1. Identify examples of democratic governmental practices, rules and laws that promote specific democratic values (freedom, justice, equality, domestic tranquility, general welfare, popular sovereignty and rule of law).

2. Propose rules that provide for order and fairness in group situations.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

● 1. Identify what is meant by legislative, executive and judicial functions and actions in government.

2. Indicate how major officials (President, governors, legislators and judges) are chosen for office in our system of government.

3. Explain how the different branches of government can restrict actions of each other in the United States system of checks and balances.

4. Explain restraints on government officials (being subject to election, operating under constraints of law, etc.).

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

● 1. List and explain rights and responsibilities of citizens of the United States.

2. Compare rights and responsibilities of adults with those of children.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

○ 1. Identify ways to promote effective group decision making, and act in accordance with those ways: practice courteous behavior, follow rules and established discussion procedures, listen to others, contribute ideas, suggest alternatives, withhold judgment until important facts are known, and accept decisions of the group once a final decision has been made.

2. Identify groups or individuals with authority to bring about changes in the school and community.

○ 3. Identify constructive ways of promoting changes in rules of home, school and community.

4. Identify constructive ways a consumer could redress a grievance at a local store (e.g., an electronic game a student buys is defective).

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

○ 1. Identify arguments on both sides of specific local issues. (For example, a city wants to close a factory which employs many workers because it is polluting the river; the state wants to take rich farmland for a highway; a city wants an office building on a site now occupied by a historic one-room schoolhouse.)

L. Apply analytic skills to political messages and discussions.

The learner will:

- ● 1. Distinguish between statements of fact and opinion. (4)
- 2. Recognize instances of persuasive techniques being used in communication, and describe the techniques used.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

- ● 1. Identify opportunity costs and trade-offs in economic choices made by individuals, families and communities. (5)
- ○ 2. Use a rational decision-making process when making or analyzing simple personal economic decisions. This process includes: (a) defining the problem with identification of goals in conflict; (b) listing alternatives; (c) stating and rating criteria; (d) evaluating alternatives; and (e) making a decision with awareness of the trade-offs.

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

- ● 1. Identify examples of and use the following terms related to production: "natural resources," "human resources," "capital resources," "technology," "specialization," "productivity" and "investment." (6)
- 2. Explain how investment in capital and human resources increases productivity.
- 3. Indicate how geographic distribution of resources affects production.

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

- 1. Predict consequences of major increases or decreases in household incomes on community businesses.
- ● 2. Identify examples of government revenue (taxes) and expenditures (for defense, roads, etc.), and describe their purposes and consequences for households and businesses.

P. Understand relationships among supply, demand, price and quantity of goods and services in market economics.

The learner will:

- ● 1. Identify or provide examples that demonstrate the relationships between price and the quantity of goods and services supplied or demanded.
- 2. Predict the direction of price change when given a description of the quantity of an item produced relative to how much consumers want to buy.

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

- 1. Explain the relationship between employment and income of people in a community.
- 2. Identify factors contributing to higher or lower levels of employment and total income in a community.

R. Understand principles related to trade (personal, regional or international).

The learner will:

- ● 1. Identify how and why different regions of this nation specialize in the production of goods and services.
- 2. Differentiate between self-sufficiency of a family, region or nation as opposed to interdependence; identify costs and benefits of each.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

- 1. Identify in given cases conditions leading to changes in an individual's emotions and the likely consequences.
- 2. Indicate how people learn and remember skills, attitudes and appropriate behavior for various settings.
- ● 3. Identify different roles or positions an individual may assume (parent, student, friend, worker, citizen, adult, etc.) and the expected behavior usually attached to each role.
- 4. Differentiate between roles that are achieved and roles that are assigned.
- 5. Identify potential problems that may arise when an individual's role expectations are in conflict.
- 6. Identify how membership and participation in a group may influence an individual's behavior and perceptions.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

- ● 1. Indicate how various human needs are met by family, local community and national groups and institutions in the United States.

- ○ 2. Compare how human needs are met in various cultures studied in class.
- 3. Contrast a contemporary institution, such as the family or school, with the institution as it was in the past.
- 4. Compare selected institutions of different cultures (including the family and educational, religious, political and economic institutions).

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

- 1. Identify similarities and differences among major ideas, values and attitudes of people from different cultures studied.
- ○ 2. Compare how people from other cultures differ in perception and judgment of events in their lives with people in this culture.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

- ● 1. Identify appropriate resources when given simple questions related to geography or history: maps, tables, graphs, atlases, encyclopedias, direct observations, people with expertise, historical documents, music and works of art.
- ○ 2. Develop and use a plan for investigating a question, including:
  - defining the question clearly
  - identifying resources needed
  - formulating hypotheses based on data
  - proposing and carrying out ways to test the hypotheses
  - assessing how the question was resolved

## Notes

(1) In this and several other learner outcomes, the word "studied" is used as a signal that the specific content to which the objective applies is left to the local school district or classroom teacher.

(2) "Spatial distributions" refers to patterns of how various things and places are located in relation to each other: ice in polar regions and in high altitudes; people being clustered around places of work and lines of transportation; cities being located by rivers, etc.

(3) "Spatial interactions" refers to interactions of people in different places resulting from communication and transportation linkages.

(4) An opinion, as used here, is a statement based on the values of the person who makes the statement. For example: "People should be honest," "It's fun to ride a bicycle," or "Reagan is a good President." In the case of each example, the statement is based on the speaker's standards or principles for judging things. Statements of fact are statements that have been judged to be true based on examination of appropriate evidence, as in these examples: "Honest people are trusted more than dishonest people," "Riding a bicycle rapidly causes the heart to beat faster" or "President Reagan received more votes than Senator Mondale."

(5) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Taking a longer recess means giving up all or part of music or art class. Determining trade-offs involves considering the things you choose not to have to get something. The best of the alternatives one foregoes when making a choice is the "opportunity cost." Opportunity cost is, therefore, the next best alternative when scarce resources are used for one thing rather than another. For example, the opportunity cost of buying baseball cards may be the candy bar, the gum or the soda, whichever you consider the best alternative. Similarly, the opportunity cost of a longer recess would be the music or art missed, whichever is your favorite class—not both. Determining opportunity cost involves considering how the use of resources for one purpose means the loss of an opportunity to obtain something. Teachers are *not* advised to have students distinguish between opportunity costs and trade-offs because there is so much overlap in their meaning.

(6) "Natural resources" refers to land and raw materials used in producing goods and services. "Human resources" refers to the intellectual and physical labor of people used in producing goods and services. "Capital resources" refers to manufactured items (buildings, machinery, tools, roads, etc.) used in producing goods and services. "Technology" refers to the processes and knowledge used in producing goods and services. "Specialization" refers to an individual, business, region or country producing a smaller range of goods and services than it consumes. "Productivity" refers to the amount of output per unit of input, usually labor. "Investment" refers to the use of resources by business, individuals, or government to increase productive capacity by developing new technology, creating capital resources or enhancing the quality of the work force.

# Selected Resources for Levels IV, V and VI
## Language Arts/Reading/English

**Department Publications**

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*A Writing Guide for Missouri Schools, K-12.* Suggests a philosophical framework for the teaching of writing and provides practical suggestions and activities for encouraging student interest and growth in writing. Provides suggestions for integrating writing in all curricular areas.

*BEST Activity Book for Reading/Language Arts.* Suggests activities that deal with real-life reading/language arts activities appropriate for students in grades 4, 5, and 6 and relate to objectives of the Basic Essentials Skills Test.

*A Guide for Children's Literature, K-8.* A resource guide of literature for children—poetry; folk-fairy tales; biography; historical stories; books about weather, seasons and earth, etc. These are suggested on a month-by-month basis. These books could be read by the teacher to the class; read by children independently; and could serve as a list for parents to provide through the library or as gifts for children.

**Publications and Articles**

*Teaching Reading Vocabulary, 2nd ed.* Johnson, Dale D. and Pearson, P. David. Holt, Rinehart and Winston, 901 North Elm Street, Hinsdale, Illinois 60521.

*Teaching Reading Comprehension.* Pearson, P. David and Johnson, Dale D. Holt, Rinehart and Winston, 901 North Elm Street, Hinsdale, Illinois 60521.

*Becoming a Nation of Readers.* The Center for the Study of Reading. University of Illinois, Champaign, Illinois 61812.

*Understanding Writing.* Newkirk, Thomas and Atwell, Nancie (ed.) Northwest Regional Exchange, Inc., Chelmsford, Maine 01824.

*Roots in the Sawdust.* Gere, Anna Ruggles (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Perspective on Writing in Grades 1-8.* Haley-James, Shirley (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Evaluating Writing.* Cooper, Charles R. and Odell, Lee (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Teaching Reading Comprehension.* Page, William D. and Pinnell, Gay S. National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*A Procedure for Writing Assessment and Holistic Scoring.* Myers, Miles. National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Classroom Applications of Writing Assessment.* Northwest Regional Educational Laboratory, 300 S.W. Sixth Avenue, Portland, Oregon 97204.

*Sentencecraft.* O'Hare, Frank. Ginn & Co., P.O. Box 2649, Columbus, Ohio 43216.

*Teaching Oral Communications in Elementary School.* Willbrand, Mary Louise and Rieke, Richard D.

*Speech Communication for the Classroom Teacher.* Cooper, Pamela J.

**Video Tape Series**

The following video cassette instructional programs are available from the Academic Support Center, University of Missouri-Columbia, 505 E. Stewart Road, Columbia, Missouri 65211. (314) 882-3652.

*Think About.* Sixty programs for students in grades 4, 5 and 6 that integrate reading/language arts skills with other curricular areas. Examples of programs are "What's the Meaning?" dealing with problems encountered by the sender and receiver of information; "Meaning Is More Than Words"; "Communicating Effectively"; "Judging Information"; and "Generalizing" (drawing conclusions, checking conclusions).

*In Other Words.* Twelve 15 minute programs in language arts that could be used with sixth graders. Topics are "Consider Your Audience," "Breaking Down a Topic," "Organizing Your Message," "How Can I Get People to Listen?" and others.

*WhatAbout.* Although the series deals with science-related topics, thinking skills of questioning, observing, classifying, predicting and communicating are stressed in the twelve 15 minute programs.

**Agencies and Organizations**

International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, Delaware 19714-8139.

Missouri International Reading Association, Contact: Betsy Baker, 4203 S. Providence Road, Columbia, Missouri 65203.

National Council of Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

Missouri Association of Teachers of English, Dr. Peter Hasselriis, Treasurer, University of Missouri-Columbia 65211.

Speech and Theater Association of Missouri. Contact: Dr. Dan Curtis Central Missouri State University, Warrensburg, Missouri 64093.

## Developing and Evaluating Listening/Speaking Skills

Development of listening/speaking skills begins early in the individual's life—to the point that by the time a student enters school, he/she has been employing listening/speaking skills to meet individual needs for some time. This does *not* mean that skills essential for effective listening/speaking should not be extended by carefully planned instructional activities and assessed so that corrective measures can occur. Because listening/speaking skills are not easily assessed by pencil and paper tests, a committee of members of the Speech and Theater Association of Missouri has provided suggestions for assessment of skills at the classroom level. (See Level III for suggestions for developing and evaluating oral presentations and listening.)

## Small Group Discussion

The following questions could be used in helping students participate in small group discussions.

Knowledge of the topic: Did the student add valuable information to the discussion?

Participation in the group: Did the student share discussion time? Was the student courteous and objective in presenting opinions and information?

Role in the group: Did the student play a constructive role in the discussion? Did he/she have leadership potential?

Problem solving: Did the student show logical thinking in the decision-making process?

Cooperation: Did the interaction of the group demonstrate mutual concern for each of the members?

## Rubric for Scoring Writing

Student papers for writing assessment will be scored by holistic methods. Papers will be evaluated on a scale from one to six. Each scoring level considers the following aspects of composition: focus, organization, development, mechanics, sentence structure and diction. The rubric for sixth grade with descriptors for each level is as follows.

**SCORING LEVEL SIX**

a. *Focus* Has focus and sense of direction; responds directly to topic
b. *Organization* Includes logical progression of ideas and coherence; contains evident beginning, middle, and end
c. *Development* Contains strong support, many specifics
d. *Mechanics* Has good mechanics, though may contain occasional errors
e. *Sentence structure* Possesses sentence clarity; possesses some sentence complexity and variety
f. *Diction* Includes appropriate vocabulary and diction; possesses freshness of expression

**SCORING LEVEL FIVE**

a. *Focus* Has focus and sense of direction; responds to topic
b. *Organization* Includes progression of ideas and coherence; contains beginning, middle and end
c. *Development* Contains good support, several specifics
d. *Mechanics* Has good mechanics, though may contain some errors
e. *Sentence structure* Possesses clear sentences, though they may lack variety and complexity
f. *Diction* Includes appropriate vocabulary and diction, though these may lack freshness and variety

**SCORING LEVEL FOUR**

a. *Focus* Has focus and sense of direction, though may be less evident than in higher categories; responds to topic
b. *Organization* Includes a generally logical progression of ideas, though may occasionally show lapses in coherence and less fully developed sense of beginning, middle, end
c. *Development* Contains details for support, though may be fewer in number; may lack specificity or lacks generalizations to frame details used
d. *Mechanics* Has fair to good mechanics
e. *Sentence structure* Possesses clear sentences, though they may lack variety and complexity
f. *Diction* Includes appropriate vocabulary and diction, though these may lack freshness and variety

**SCORING LEVEL THREE**

a. *Focus* May have focus and sense of direction, or may lack focus; may address topic only partially
b. *Organization* May contain some irrelevancies or digressions; may contain little sense of beginning, middle, end
c. *Development* Has details for support, but these details may lack specificity or appropriateness
d. *Mechanics* Has poor to fair mechanics

e. *Sentence structure* Has sentences which are fairly clear but which may lack complexity and variety
f. *Diction* Has less sophisticated vocabulary and diction

**SCORING LEVEL TWO**

a. *Focus* May possess some focus and sense of direction, or may lack focus and direction altogether; may address topic only partially
b. *Organization* May lack coherence; may be characterized by digressions or irrelevancies; may have little sense of beginning, middle, end
c. *Development* May have little support or development, or support may be irrelevant
d. *Mechanics* Has poor to fair mechanics; often has distracting mechanical errors
e. *Sentence structure* Has immature sentences which lack clarity, complexity, and/or variety
f. *Diction* Has less sophisticated vocabulary and diction

**SCORING LEVEL ONE**

a. *Focus* May possess some focus and sense of direction, or may lack focus and direction altogether
b. *Organization* Lacks coherence; lacks sense of beginning, middle, end
c. *Development* Has little or no development or support
d. *Mechanics* Has poor mechanics
e. *Sentence structure* Has immature sentences which lack clarity, complexity, and variety
f. *Diction* Has limited vocabulary and immature diction

**NOTE:** Errors in mechanics may lower a paper one to two categories.

## Suggested Topics for Student Writing

- My first fight
- My most embarrassing moment
- The most stupid thing I ever did
- My most serious accident
- The wisest thing I ever did
- Things I have lost
- The dog (or other pet) in my life
- How my family celebrates a holiday
- Meet my family
- I was scared!
- A sports event I'll never forget
- A day I would like to forget
- If I could do it over
- How I learned to read
- It's easier to blame others
- Why I like (dislike) my name
- Why . . . is my favorite sport
- I like music because . . .
- Why I want to be . . .
- My idea of hard work is . . .
- My idea of a good dinner is . . .
- My idea of a dull evening is . . .
- My idea of a perfect school is . . .
- How I would invest a thousand dollars
- If I could be an animal for a day I would be . . .
- The finest movie I have ever seen is . . .
- My favorite season is . . .
- My dream vacation
- My worst enemy
- Three books I want to own and why
- A character from fiction that I would like to meet is . . .
- My biggest gripe is . . .
- An open letter to my parents
- A curious dream
- What a home ought to be
- The most wonderful person I know
- A brief description of myself
- I wish I had lived in the time of . . .
- The main street of my hometown
- My favorite restaurant is . . .
- My favorite meal is . . .
- How to care for a cat (pet)
- How to find happiness
- How to prepare my favorite food
- How to choose a friend
- How to get along with a brother (sister)
- The best state in the Union is . . .
- We can be proud of our school because . . .
- What our school needs most is . . .

# The Missouri Basic Word List

The Missouri Basic Word List, a group of high-frequency use words needed in many subject areas, can serve as a sight vocabulary and as a source of spelling words for students. Words for Level III should be reviewed during grade 4. During grades 4, 5 and 6, words in Level VI should be taught. By the end of grade 6, a student should have all words in Levels III and VI in his/her speaking, listening and reading vocabularies.

## Level VI

able
aboard
absent
accept
accident
accord
account
ache
acre
action
actual
adjust
admit
adopt
adult
advance
adventure
advertise
advise
affect
afford
afterward
Africa
against
agent
aide
aim
aircraft
alarm
allow
alone
alphabet
although

altogether
a.m.
American
amount
amuse
angle
announce
annual
answer
anxious
apartment
apiece
appear
apply
appoint
approve
arch
area
argue
argument
arise
army
arrange
arrest
arrive
article
artist
ashamed
ashore
Asia
aspirin
assembly
assist

assorted
attack
attempt
attend
author
available
avenue
average
avoid
await
aware
background
backward
balance
bandage
barber
bargain
barrel
basement
basic
basis
battery
battle
beach
beam
beautiful
beginning
behalf
behold
belief
believe
bench
beneath

benefit
beverage
beware
beyond
bicycle
blanket
blizzard
bloom
blouse
boast
border
borrow
boss
bother
boundary
brain
brake
branch
breakfast
breathe
brick
bride
bridge
brief
brilliant
broad
budget
bulb
bulletin
bunch
bundle
burden
burst

bury
bushel
business
cabbage
cabinet
cafeteria
calendar
camera
campaign
canal
cancel
candidate
candle
canvas
canyon
capacity
capital
capitol
captain
capture
carbon
career
carpenter
carpet
carried
carrier
cash
cashier
castle
caterpillar
caught
cause
caution

cease
ceiling
celebrate
celery
cell
cement
central
century
certain
chain
chance
chapter
character
characteristic
charge
cherry
chest
chimney
chocolate
choice
circle
cities
citizen
claim
cleanser
clerk
clever
cliff
climate
closet
clue
coach
coal

coarse
cocoa
coffee
collect
collection
college
column
combination
combine
comfort
comfortable
command
comment
commerce
committee
common
communicate
community
company
compare
compass
complaint
complete
comply
compound
compute
computer
conceal
concern
conclude
condition
conduct
conflict

confuse
congress
connect
consent
consider
consist
consonant
constant
constitution
construct
construction
consume
contain
content
continent
continue
contract
contrast
contribute
control
copper
copy
correct
county
couple
coupon
courage
course
court
courteous
cousin
cover
crash

crawl
creature
credit
crept
crop
cruel
crowd
curious
current
curtain
curve
custodian
custom
customer
daily
damage
danger
dangerous
data
daughter
death
debt
decide
declare
decline
deduct
defeat
defend
defense
definition
degree
delay
delight
deliver
demand
democracy
democratic
dentist
deny

deodorant
department
depend
deposit
describe
desert
deserve
design
desire
dessert
destroy
detect
develop
diet
difference
different
difficult
direct
direction
dirty
disappear
disappoint
disaster
discount
discover
disease
dismiss
dispose
dispute
disturb
divide
division
dollar
dose
double
doubt
dozen
dream
dried

drifting
drill
drove
drown
drugs
due
dump
during
duty
dye
eager
eagle
easily
Easter
eastern
edge
education
effort
elect
electric
electricity
element
elephant
elevator
else
employ
empty
enclose
enemy
energy
engage
engine
English
enough
enroll
enter
entire
entrance
envelope

equal
equator
equipment
escape
especially
Europe
event
everything
exact
example
excellent
except
exchange
excite
exclaim
exercise
exist
expand
expect
expensive
experiment
expert
explain
explore
export
express
extra
fact
factory
fail
false
famous
farther
fault
favor
favorite
fear
feather
federal

fellow
felt
female
fence
fever
fierce
fifteen
figure
final
firm
flame
flash
flat
flavor
float
flood
flour
flow
follow
force
foreign
forest
form
former
forth
fortune
fought
fountain
fraction
fragile
freeway
freeze
freight
frequent
frighten
fringe
frosty
frozen
fuel

fumes
fund
funeral
furnace
furnish
furniture
further
future
gallon
garage
garbage
gasoline
gasp
general
gentle
gentleman
geography
ghost
giant
globe
gloves
government
gradually
graduate
grant
grapes
graph
grease
group
guard
guest
guide
gymnasium
habit
Halloween
happiness
harbor
hatch
haul

hawk
health
heart
heat
height
history
holiday
hollow
holy
honest
honor
horizon
hose
hospital
hotel
however
human
hung
hungry
hunting
husband
hygiene
idea
identical
identify
idle
imagine
import
importance
important
impossible
improve
incline
include
increase
indeed
index
indicate
industry

infant
inferior
insect
insist
instead
intend
interest
invent
invite
invoice
iron
island
issue
item
jacket
jail
janitor
January
join
joint
joke
journey
judge
juice
junior
junk
jury
justice
keen
kept
kettle
kitchen
knee
knife
knock
knot
know
knowledge
known

label
labor
lace
lack
ladder
ladies
laid
language
laugh
launder
law
lawn
lawyer
leaf
leak
lean
leap
leather
legal
lemon
length
lesson
lettuce
level
levy
liberty
library
limp
limit
liquid
listen
loan
lobby
local
locate
location
lonely
loose
machine
magic
maintain
major
male
manager
manners
manufacture
margin
married
marry
master
match
material
matter
mature
mayor
measure
medical
medicine
medium
members
memo
mental
mention
merry
metal
middle
midnight
military
million
mineral
minute
mirror
mistake
mixture
model
modern
moment
moral
motel
motion
motor
mount
mountain
multiply
music
nation
national
native
natural
nature
navy
neighbor
neighborhood
neither
newspaper
nineteen
ninety
No.
noise
non
normal
northern
note
notice
noun
November
numeral
nurse
oatmeal
obey
object
objection
oblige
obtain
ocean
October
offer
office
officer
omit
onions
opera
operate
opposite
orange
order
ore
ought
outline
owe
pace
package
packet
paddle
paid
pain
painter
palace
pale
panic
parade
paragraph
parcel
pardon
parent
partner
passenger
patch
patrol
pattern
pavement
peace
peanut
peas
ped xing
pencil
per
perfect
perform
perhaps
period
personal
phone
picket
picnic
picture
piece
pile
pillow
pine
pint
pioneer
pistol
plains
planet
plastic
platform
playground
please
pleasure
pledge
plenty
plumbing
plural
p.m.
pocket
poem
point
poison
police
political
popular
population
porch
pork
portion
possible
potato
pour
powder
power
practice
prepare
present
president
press
pretend
pretty
prevent
primary
print
prison
prize
program
project
promise
promote
proof
proper
property
propose
protect
protection
prove
provide
public
pumpkin
punish
pupil
pure
purple
quart
quarter
queen
question
quick
quiet
quit
quite
radar
radio
raise
range
rank
rare
rate
raw
rear
reason
recent
recess
record
recover
reduce
reflect
reform
refuse
regard
regular
reject
relate
remain
remark
remember
remind
remove
rental
repair
reply
represent
request
resist
respect
respond
result
resume
retail
retard
retire
retreat
reveal
review
revise
revolution
reward
ribbon
rifle
rise
risk
river
roast
rob
robin
rocket
rode
root
rough
round
route
royal
rub
rubber
ruin
rule
rummage
rural
rye
safety
salad
sample
sandwich
Santa Claus

Saturday
scale
scare
scarf
scold
score
scratch
scream
screen
scrub
seal
season
second
secret
section
seize
self
sentence
September
serve
service
settle
seventeen
seventy
several
sew
sewer
shade
shadow
shake
shall
shallow
shampoo
shape
share
sharp

she'd
shelter
shift
shine
shirt
shone
shoot
shoulder
shout
shove
shower
shut
sight
sign
signal
silent
silver
simple
since
single
sixty
skate
skirt
sled
slow
smile
smooth
socks
soil
solid
solve
soup
space
spade
speak
spices

spill
spitting
splash
spoil
sports
spray
spread
square
squirrel
stable
stain
stairs
stalk
statement
station
steak
steal
steam
steel
steep
stick
stock
stomach
stood
straight
strange
stream
stress
strike
struck
style
subject
submit
subtract
success
sudden

suffer
sugar
suggest
suit
sunshine
supply
support
suppose
sure
surprise
surrender
surround
swallow
sweater
swell
swift
swimming
switch
syrup
tablespoon
talent
tape
taste
taught
tax
taxi
tear
teaspoon
teeth
telephone
telescope
television
tent
term
text
Thanksgiving

their
themselves
therefore
these
thick
thin
thirsty
thirteen
thirsty
thorough
though
thought
thousand
threw
throw
thumb
Thursday
ticket
tight
till
tiny
tire
tissue
title
together
toll
tomato
tomorrow
ton
tore
total
touch
tough
toward
towel
tractor

trade
trade
traffic
trail
trailer
transfer
travel
treat
trial
tribe
trim
trouble
truck
true
truly
trunk
trust
Tuesday
twelve
twenty
twice
twin
type
typewriter
ugly
umbrella
unable
uncle
underpass
understood
uniform
union
United States
unless
unloading
until

unusual
upstairs
useful
vacation
Valentine
valid
valley
value
vast
vegetable
verb
vertical
village
visit
visitor
voice
volume
vote
wade
wage
wait
walnut
war
warn
Washington
waste
wave
wax
weak
weather
weave
Wednesday
weed
weigh
weight
welcome

wheat
wheel
whether
which
while
whip
whole
wholesale
whom
whose
wild
wine
wipe
wire
wise
witness
woke
women
wonder
wonderful
worm
worry
worst
worth
wouldn't
wreck
write
written
wrong
wrote
yesterday
young
yourself
you've
zero
zone

# Selected Resources for Levels IV, V and VI Mathematics

## Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*Activity Book for the Missouri Basic Essential Skills Test: Mathematics Objectives;* includes suggested activities for intermediate grades.

*Basic Math Skills for Missouri Students, K-8.*

## Publications and Articles

*Active Mathematics Teaching.* Good, Grouws, Ebmeier and Longman, Research on Teaching Monograph Series. New York and London.

*An Agenda for Action: Recommendations for School Mathematics of the 1980's.* National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Applying Arithmetic—A Handbook of Applications of Arithmetic: Final Report.* Usiskin and Bell, National Science Foundation, Washington, D.C. 20402.

*Calculator Activities for the Classroom.* Immerzeel and Ockenga. Creative Publications, Inc., Palo Alto, California 94033.

*Developing Computational Estimation Materials for the Middle Grades: Report.* Reys, Trafton, Reys and Zawojewski, National Science Foundation, Washington, D.C. 20402.

*Developing Minds.* "Some Thoughts About Mathematics and Problem Solving," pp. 97-101. Wirtz, Association for Supervision and Curriculum Development, 225 N. Washington Street, Alexandria, Virginia 22314.

*Helping Children Learn Mathematics.* Reys, Suydam and Lindquist. Prentice-Hall Inc., Englewood Cliffs, New Jersey 07632.

*Keystrokes: Calculator Activities for Young Students.* Reys, et al. Creative Publications Inc., Palo Alto, California 94033.

*Make It Simpler.* Meyer and Sallee. Addison Wesley. 1843 Hicks Road, Rolling Meadows, Illinois 60008.

*Mental Computation and Estimation.* Schoen (ed.), 1986 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Mental Math for Middle Grades.* Hope, Reys, and Reys. Dale Seymour Publications, Palo Alto, California 94033.

*Problem Solving in School Mathematics.* Krulik (ed.), 1980 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Project Plus, Problem Solving Materials.* Price Laboratory School, Cedar Falls, Iowa 50613-3593.

*Quantitative Literacy Publication.* Dale Seymour Publications, P.O. Box 10888, Palo Alto, California 94033.

*Teaching of Statistics and Probability.* Schulte (ed.), 1981 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Teacher Made Aids for Elementary School Mathematics* (Volume 2). Reesink (ed.). National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Teaching Mathematics in the Elementary School.* Fuys and Tischler, Little, Brown, and Company, Boston, Massachusetts 02125.

*The Arithmetic Teacher.* "Research on Problem Solving: Implications for Elementary School Classroom." November, 1977. pp. 40-44. Suydam and Weaver.

*The Mathematical Sciences Curriculum K-12: What is Still Fundamental and What is Not.* Conference Board of the Mathematical Sciences. National Science Foundation, Washington, D.C. 20402.

*Winning With Statistics.* Runyon, Addison Wesley, 1843 Hicks Road, Rolling Meadows, Illinois 60008.

## Video Tape Series

*It Figures* (1982)—A state-owned series of 28 twelve to fifteen minute video programs developed by the Agency for Instructional Technology dealing with mathematics skills for fourth grade but appropriate for other levels. Available at state cost from the Academic Support Center, University of Missouri-Columbia, 505 E. Stewart Road, Columbia, Missouri 65211.

*Math Works* (1985)—A series of 28 video tapes dealing with geometry, problem-solving, reasoning, etc. Aimed at fifth grade but appropriate for other levels. Available from the Academic Support Center, 505 E. Stewart Rd. Columbia, Mo. 65211.

**Agencies and Organizations**

Missouri Council of Teachers of Mathematics
Membership: K-12 Mathematics Teachers
Publication: MCTM Bulletin
Contact: Bob Buss (Parkway School District)

National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.
Membership: K-12 Mathematics Teachers
Publication: *The Arithmetic Teacher*
*The Mathematics Teacher*
NCTM Bulletin

# Selected Resources for Level IV, V and VI Science

### Department Publications

*Science Objectives for Missouri Students, K-6.* A guide to assist local school districts in the management of science instruction, kindergarten through grade six. (1984) Available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

### Publications and Articles

*Foundational Approaches in Science Teaching* (F.A.S.T.) This project has a set of course publications and a training program in the concepts and methods of physical, biological and earth sciences and their relationships to the environment for grades six through eight. Contact: Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201.

*Learning With Otis.* A free set of regular publications which includes teacher's activity book, posters and four issues of the Notes From Otis newspaper in classroom quantities. Forthcoming issues will be cross referenced with the state core competencies. Missouri Department of Conservation, Education Unit, P.O. Box 180, Jefferson City, Missouri 65102.

*Missouri Conservation Frontiers: A Conservation Action Program.* An activities and award program that promotes school and community hands-on activities both in and out of school. Missouri Department of Conservation, Education Unit, P.O. Box 180, Jefferson City, Missouri 65102.

*Science Fairs and Projects.* This publication answers your questions about science fairs and lists resources. (Write for catalog.) NSTA Special Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Starwalk.* A validated Title IV-C comprehensive earth/space science program for grades three through five. Contact: Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201.

*Supplement of Science Education Supplies.* A directory of over 300 firms that manufacture/distribute products for the science classroom. (Write for publications catalog). NSTA Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Terrestrial Natural Communities in Missouri.* Department of Natural Resources, Public Affairs Office, P.O. Box 176, Jefferson City, Missouri 65102. (Write for listings of additional publications, teacher workshops and other services.)

### Video Tape Series

*Agency for Instructional Technology Catalog of Educational Materials 1986.* (AIT) The catalog contains materials and programs for science and the other core competency areas. Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*Audiovisual and Literature Catalog.* The catalog contains many free loan films, tapes, computer programs and publications appropriate for K-12 science. Missouri Department of Health, P.O. Box 570, Jefferson City, Missouri 65102.

*Solutions Unlimited.* A state owned set of eight video and eight microcomputer problem solving strategies with teacher's manual for grades five through eight and other appropriate grade levels. May be purchased at state cost from: Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*WhatAbout.* A state owned AIT series of twelve 15-minute video programs directly addressing the processes in science and higher order thinking skills. May also be used in other subject matter areas for developing thinking skills. Available at reproduction cost. Academic Support Center, 505 E. Stewart Road, Columbia, Missouri 65211. (314) 882-3608. These programs may also be available through Instructional TV (ITV) telecast. Missouri schools have copying privileges for these programs if the school subscribes to ITV services.

*What I Usually Eat.* An example of a science/nutrition microcomputer program for grades three through six which was produced by the National Dairy Council and is available on free loan from Films and Literature, Missouri Department of Health, P.O. Box 570, Jefferson City, Missouri 65102.

### Agencies and Organizations

Jet Propulsion Laboratory, Education Outreach, 4800 Ash Grove Drive, Pasadena, California 91109. Mail stop 520-100. (818) 354-6916. Provides extensive earth and space science instructional materials and resources. Write for catalog.

Missouri Botanical Gardens, P.O. Box 299, St. Louis, Missouri 63166. Write for a listing of publications, programs, educational tours and speakers on science topics for grades 4, 5 and 6.

Missouri Cooperative Extension Service. The extension service may have several science activities developed for other programs which would be useful in science classes. Check for the local office in your phone book.

Missouri Department of Conservation, Education Section, P.O. Box 180, Jefferson City, Missouri 65102. Provides extensive conservation, environmental and outdoor skills education publications, audiovisuals, inservice teacher training workshops, consultant assistance and other services for grades K-12. Contact your regional conservation educational consultant and/or outdoor skills specialist or write to the Education Section.

Missouri Department of Natural Resources, Office of Public Affairs, P.O. Box 176, Jefferson City, Missouri 65102. (314) 751-3443. Provides extensive instructional materials, teacher training workshops and other services for elementary schools.

Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201. (314) 875-8782. The Facilitator Center has many validated programs in science, grades K-12. Write or call for the catalog entitled *Educational Programs that Work*. Annually, this catalog is sent to building principals.

National Science Teachers Association, 1723 Connecticut Avenue, NW, Washington, D.C. 20009. Write for publications list.

Phillips Petroleum Company, 16C-4 Phillips Building, Bartlesville, Oklahoma 74004. Provides several free science and math programs and a speakers bureau service.

Rural Electric Cooperative. Many rural electric cooperatives provide materials useful in science programs. Check for the local office in your phone book if your area is served by a rural electric cooperative.

St. Louis Science Center. Education Director, 5050 Oakland Avenue, St. Louis, Missouri 63110. (314) 289-4409. The center provides several training programs and a variety of instructional materials.

# Selected Resources for Levels IV, V and VI Social Studies

## Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*Best Activity Book: Government/Economics Objectives.* 1977. Includes activities for elementary grades 4, 5 and 6.

*Guide to Social Studies Curriculum Development for Missouri Educators.* 1981. Goals, objectives and strategies to help educators improve their K-12 social studies programs.

*Missouri in The World.* 1986. Strategies for teaching Missouri students about their state's relationship with other cultures.

*The Social Studies Basic Skills Connection.* 1982. Practical strategies and activities for teaching basic skills in conjunction with the social studies content.

## Publications and Articles

### General

*Learning.* A magazine appearing monthly during the school year produced by The Learning Institute, P.O. Box 2580, Boulder, Colorado 80322.

*Social Education.* The journal of the National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016.

*The Social Studies.* A bimonthly magazine produced by Heldref Publications, 4000 Albemarle Street, NW, Washington, D.C. 20016.

### Geography

*Guidelines for Geographic Education: Elementary and Secondary Schools.* Available from the National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

*Map and Globe Skills: K-8 Teaching Guide.* Winston, Barbara J. 1984. Available from National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

### History

See general publications above.

### Government/Civics

*Rights and Responsibilities of Citizenship in a Free Society. A Law Oriented Curriculum Guide, K-12.* Produced by The Missouri Bar, P.O. Box 119, Jefferson City, Missouri 65102.

### Economics

*Curriculum Guide to Missouri Core Competencies in Economics.* Produced by and made available from the Center for Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211.

*A Framework for Teachers: The Basic Economics Concepts.* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: Intermediate Level (Grades 4-6).* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Zooconomy.* An economics unit for elementary grades. Produced by and made available from the Center for Economic Education, University of Missouri-St. Louis, 8001 Natural Bridge, St. Louis, Missouri 63121.

### Other Social Studies Competencies

Many elementary social studies textbook series contain information very relevant to the "Other Social Studies Competencies" learning outcomes. Some do so better than others. Consequently, it is important that teachers not restrict themselves to the series used in the local district. For background information related to competency S, teachers are advised to review discussions of learning theory and of role theory in basic psychology and social psychology books. For information on belief systems, institutions, and social structure of other cultures, there are many resources, such as quality children's literature available in libraries, books sometimes cited in teachers' textbook guides, and activities references cited in *Social Education*, in *News and Notes on The Social Studies*, and in Social Science Education Consortium references. Teachers are also advised to write the Community Education Office, Center for International Studies, University of Missouri-St. Louis, 366 SSB Building, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499, (314) 553-5001, for a copy of *A Guide For Educators to the International Resource Collection*. This guide lists materials that may be borrowed by Metropolitan St. Louis educators and that can serve as a good list of materials which districts should consider purchasing.

## Video Tape Series

*Trade-offs.* A series of twelve video cassette economics programs for grades 3-7 and a teacher's guide designed to help students think through economic problems and increase their understanding of economics. Available from your nearest Center for Economic Education or the Missouri Council on Economic Education.

## Agencies and Organizations

### General

Missouri Council for the Social Studies and MSTA Department of Social Studies.

Both groups sponsor state meetings twice a year and produce newsletters. Since neither group has a permanent address, contact the office of the Curriculum Consultant for Social Studies of the Missouri Department of Elementary and Secondary Education.

National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016. (202) 966-7840.

Produces the journal *Social Education*, which includes practical classroom ideas for all levels; books and booklets for social studies teachers; how-to-do-it pamphlets; and sponsors an annual Social Studies convention.

Social Science Education Consortium (SSEC), 855 Broadway, Boulder, Colorado 80302.

The SSEC has produced many excellent resource books for teachers. Write for catalog.

Social Studies Development Center, Indiana University, 2805 East 10th Street, Bloomington, Indiana 47405. (812) 335-3584.

The center houses the ERIC Clearinghouse for Social Studies. It also produces two newsletters, free for school buildings: *News and Notes on the Social Sciences* and *Keeping Up: News Bulletin of the Clearinghouse for Social Studies/Social Science Education*.

### Geography

National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

Holds an annual meeting and produces a journal. Recently published *Guidelines for Geographic Education for Elementary and Secondary Schools*. (Available at low cost.)

National Geographic Society, Educational Media Division, Washington, D.C. 20036. (202) 828-5699.

Produces *National Geographic* (for adults) and *World* (for children) magazines and has recently begun producing a free newsletter for educators, *Geography Education Update*.

### History

Organizations supportive of history include, among others, museums and historical societies. The particular organizations listed below offer materials that may be borrowed and used for history instruction and/or offer programs of interest to teachers:

Jefferson National Expansion Memorial
Education Office
11 North Fourth Street
St. Louis, Missouri 63102 (314) 425-4472

St. Louis Art Museum
Department of Education
Forest Park
St. Louis, Missouri 63110 (314) 726-2316

Missouri Historical Society
Forest Park
St. Louis, Missouri (314) 721-0067

Nelson Atkins Gallery of Art
4525 Oak Street
Kansas City, Missouri 64111 (314) 931-8963

### Government/Civics

The Missouri Bar Advisory Committee on Citizenship Education, P.O. Box 119, Jefferson City, Missouri 65102. (314) 635-4128.

The Missouri Bar Advisory Committee on Citizenship Education, a joint program of The Missouri Bar, the Department of Elementary and Secondary Education, and the University of Missouri-Columbia, was established to help teachers understand and teach about the legal system. The committee produced a curriculum guide and other resources; operates an A-V lending library; assists with workshops and technical assistance; helps classroom teachers obtain attorneys as resource people; and has a free newsletter.

The American Bar Association Special Committee on Youth Education for Citizenship, 750 North Lake Shore Drive, Chicago, Illinois 60611. (312) 988-6056.

Publishes the magazine *Update on Law Related Education* (LRE) and two newsletters entitled *LRE Project Exchange* and *LRE Report: What's Happening in Law-Related Education*. These publications provide information about the legal system, teaching activities, new publications, conferences and courses.

Resource Center for Law-related Education, The Bar Association of Metropolitan St. Louis, One Mercantile Center, Suite 3600, St. Louis, Missouri 63101. (314) 421-4134.

Conducts workshops, provides technical assistance and offers programs in the Metropolitan St. Louis area.

### Economics

The Missouri Council on Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211. (314) 882-3803.

The Missouri Council on Economic Education coordinates a network of Centers for Economic Education to help elementary and secondary teachers understand and teach important ideas from economics. Contact the nearest center in your area for available materials and services: University of Missouri-Columbia, University of Missouri-St. Louis, Rockhurst College, Southeast Missouri State University, Southwest Missouri State University, Drury College, Northwest Missouri

State University, and Missouri Western State College. The centers are equipped to help local districts and teachers in their efforts to teach economics core competencies.

The Joint Council on Economics Education, 2 Park Avenue, New York, New York 10016. (212) 685-5499. Produces many materials for teachers of all levels. Write for free catalog.

# LEVELS
# VII-VIII

# Language Arts/Reading/English

## LEVEL VII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextural strategies to identify unknown words.

*The learner will:

1. Use dictionary, thesaurus and pronunciation key to decode words and select appropriate meaning.
2. Use structural analysis (prefixes, suffixes, inflectional endings, root words, word families, compounds, etc.) to determine pronunciation and meaning of unknown words.
3. Understand how spelling indicates dialect differences and usage levels.
4. Enlarge basic sight and meaning vocabulary to include words in Level VIII of *Missouri Basic Word List* and from content areas.

B. Determine the meaning of unknown words in context.

*The learner will:

● 1. Use context and/or dictionary to determine meanings of vocabulary in content areas and literature.
○ 2. Predict and confirm meanings of new words.
○ 3. Supply and identify synonyms and antonyms for commonly used words.
● 4. Indicate the meaning of words in dialect and tell whether these are appropriate to the passage.

C. Demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

● 1. Trace the story line identifying setting, motivation of characters, narrative point of view and conflict.
● 2. State or explain how the setting, both time and place, is related to the plot.
● 3. Identify in expository text the author's purpose and point of view.
● 4. Distinguish between fact and opinion and justify response.
● 5. Identify and explain cause-effect relationships.
○ 6. Identify and explain changes in characters in a narrative selection.
● 7. Identify or state the main idea in an expository selection; select supporting details.
● 8. Summarize material read.
● 9. Make inferences and predict outcomes of a selection in literary texts, advertising, editorials, essays, etc.
●10. Draw conclusions and make generalizations supported by facts.
●11. Identify from a passage examples of loaded words and euphemisms.
●12. Relate figurative language (simile, metaphor, personification, hyperbole) to the author's purpose.
13. Distinguish different types of literary selections: myths, realistic fiction, historical fiction, narrative poetry, autobiography, etc.

D. Employ appropriate strategies for locating and using information.

*The learner will:

● 1. Select and use appropriate references for a given task: encyclopedia, almanac, atlas, directories, dictionary, library card catalog, newspapers, textbooks, trade books, *Readers' Guide* and people.
● 2. Use graphic sources for information: pictures, maps, graphs, time lines, charts, diagrams, tables, schedules, etc.
○ 3. Organize notes through outlining or clustering.
4. Develop structures for organizing personal study materials (paper, writing implements, folders, etc.).
● 5. Follow multistep directions in proper sequence.
● 6. Compare points of view from two or more sources.
○ 7. Use effective test-taking strategies.

E. Demonstrate the value of reading for personal development.

*The learner will:

● 1. Interpret and use such materials as routes, schedules, timetables and signs.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

● 2. Use basic instructions and labeling information: recipes; instructions on cans, bottles, appliances, clothing, etc.; warning labels; product contents and nutritional data.
3. Recognize and appreciate the aesthetic and humanizing aspects of literature.
○ 4. Select and share an increasing variety of materials from recreational reading.
○ 5. Make frequent personal responses—orally and in writing—to literary selections.

## Writing

F. Use the tools or means for writing.

The learner will:
○ 1. Improve both manuscript and cursive writing styles.
2. Use library resources to gather information.

G. Use the steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:
○ 1. Brainstorm and use free writing to generate ideas.
● 2. Select appropriate and relevant details to support a main idea.
● 3. Draft various forms of writing: journals, narratives, autobiographical and biographical pieces, descriptions, news stories, social and business letters, commercials, simple reports and summaries.
● 4. Establish a main idea with supporting details in an expository paragraph.
○ 5. After developing a point of view on a topic, prepare a paragraph or letter to persuade a specified audience.
● 6. Use sentence combining to show relationship between two kernel sentences (compounding, subordination, apposition, etc.)
○ 7. Revise the original draft to eliminate irrelevant material and to elaborate ideas.
● 8. Edit writing for spelling.
● 9. Edit writing for capitalization: names and titles of persons, geographic names and adjective derivatives, main words in title of written works and sections of the country.
●10. Edit writing for punctuation: end marks, semicolons and commas (as used in all forms of sentence combining).
●11. Edit writing for correct usage: confused pairs (affect-effect, their-they're, accept-except), subject-verb agreement, pronoun referents, sentence fragments and run-ons.
○12. Expand writing vocabulary.
○13. Prepare legible, attractive copy of written products to share with others, and read written work to special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:
○ 1. Demonstrate attention and courtesy by maintaining eye contact with speaker, asking questions for clarification and/or additional information.
2. Suspend judgment until speaker has finished speaking.
○ 3. Identify speaker's purpose, point of view and method of appealing to an audience (exaggeration, prejudice, propaganda techniques, emotion, humor, etc.).
○ 4. Gather and process information for writing from oral presentations.
○ 5. Identify and appreciate the contribution of regional and ethnic speech in enrichment of language.
○ 6. Respond empathetically to oral performances and presentations of literature and drama.

I. Use conventions of oral language.

The learner will:
○ 1. State sequence of events and main points of a book, play, television program, film, videotape, etc.
○ 2. Demonstrate addition of words to oral vocabulary from various sources.
○ 3. Use appropriate tone of voice, volume, and pattern of speech for oral reading, storytelling or dramatizations.
○ 4. Use conventional pronunciations for standard English in the classroom.
5. Recite selections of poetry, prose and drama from memory.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:
○ 1. Formulate questions that require answers beyond the literal level.
○ 2. Follow or give multistep directions clearly and sequentially.
○ 3. Prepare and present a demonstration speech, a book or play analysis, an informational speech, an original story or poem or a persuasive speech to select audience.
○ 4. State main idea of oral message by citing details and following theme from introduction to conclusion.

K. Use and respond to verbal and nonverbal communication.

The learner will:

1. Use congruent nonverbal cues to emphasize meaning of own message.
2. ○ Analyze oral presentations of others for speaker's point of view, speaker's message, nonverbal cues that interfere with or support message, inferences made, fact, opinion, opinion disguised as fact and speaker's purpose.
3. ○ Listen and respond to news broadcasts, editorials, speeches, political appeals, etc., for a variety of purposes: pleasure and enjoyment; directions; intelligent consumer judgments; effective citizenship.
4. ○ Determine and summarize differences of opinion in discussions and debates.

# Language Arts/Reading/English

## LEVEL VIII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.
(Learner outcomes at this level should reflect maintenance of skills mastered at Levels II through VII.)

B. Determine the meaning of unknown words in context.

*The learner will:
● 1. Use context and/or dictionary to determine meanings of vocabulary in content areas and literature.
● 2. Predict and confirm meanings of new words.
3. Enlarge basic sight and meaning vocabularies to include words in Level VIII of *Missouri Basic Word List* and appropriate acronyms.
4. Translate slang expressions into standard English.

C. Demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:
● 1. Trace the story line identifying mood, setting, plot or context and resolution of conflict in a story.
● 2. Identify the author's purpose, point of view and techniques for holding the reader's attention.
● 3. Distinguish between fact and opinion and justify response.
● 4. Identify and explain cause-effect relationships.
● 5. Identify and explain changes in characters throughout a selection.
● 6. Identify or state the main idea and supporting details.
● 7. Summarize material read.
● 8. Explain relationships of time and place within a selection.
● 9. Make inferences, predict outcomes, form generalizations and conclusions supported with facts.
●10. Identify and explain propaganda techniques from print or visual media.
●11. Identify and explain examples of figures of speech, proverbs, analogies, puns and sarcasm.
○12. Distinguish different types of literary selections: folklore, fantasy, biography, etc.
○13. Distinguish different literary forms: short story, novel, drama, essay, poetry, etc.

D. Employ appropriate strategies for locating and using information.

*The learner will:
● 1. Select and use appropriate resources for a given task: encyclopedia, almanac, atlas, directories, dictionary, library card catalog, newspaper, textbooks, trade books and *Readers' Guide*.
● 2. Use graphic sources for information: maps, graphs, time lines, charts, diagrams, tables, schedules, etc.
● 3. Use listings, comparison-contrast, time-order, etc., as study aids.
○ 4. Use effective test-taking strategies.
○ 5. Use a model for independent study, such as SQ3R (Survey, Question, Read, Recite and Review).
● 6. Follow multistep directions in proper sequence.
● 7. Check validity of sources by comparing information from more than one source, including periodicals.
8. Develop computer literacy.

E. Demonstrate the value of reading for personal development.

*The learner will:
● 1. Interpret and use transportation/communication materials such as: routes, schedules, timetables, signs, marquees, billboards and travel brochures.
● 2. Use basic instructions and labeling information: recipes; instructions on cans, bottles, appliances, clothing, etc.; warning labels; product contents and nutritional data.
○ 3. Select appropriate reading materials for recreational reading.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

## Writing

F. Use the tools or means for writing.

The learner will:

○ 1. Improve both manuscript and cursive writing styles.
2. Use library resources to gather information.

G. Use the steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

○ 1. Brainstorm and use free writing to generate ideas.
● 2. Arrange supporting details and facts in logical, coherent order.
● 3. Create and arrange plot events, dialogue, characters with distinctive personalities and sensory details in forming stories.
● 4. Establish and maintain the main idea throughout successive expository paragraphs, essays and other written discourse.
● 5. Persuade specified audiences of the legitimacy of the writer's opinion/point of view by use of anecdotes, examples and statistical data.
● 6. Use sentence combining to add subordinate details to base sentences, omit redundancies, assure smooth reading and proper sequencing.
● 7. Edit writing for spelling.
● 8. Edit writing for correct usage of capitalization: names of political parties, brand names, names of languages, generic vs. specific names and personification.
● 9. Edit writing for punctuation: end marks, commas, semicolons, quotation marks, parentheses, hyphens and apostrophes in unusual possessive formations.
●10. Edit writing for correct usage: sentence fragments, run-ons, shifts in verb tense, subject-verb agreement and correct pronoun forms.
○11. Expand writing vocabulary.
○12. Prepare legible, attractive copy of written work and share by reading to special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

○ 1. Demonstrate attention and courtesy by maintaining eye contact with speaker, asking questions for clarification and/or additional information.
2. Suspend judgment until speaker has finished speaking.
○ 3. Identify speaker's purpose, point of view and method of appealing to an audience (exaggeration, prejudice, propaganda techniques, emotion, humor, etc.).
○ 4. Gather and process information for writing from oral presentations.
○ 5. Identify and appreciate the contribution of regional and ethnic speech in enrichment of language.
○ 6. Respond empathetically to oral performances and presentations of literature and drama.

I. Use conventions of oral language.

The learner will:

○ 1. State sequence of events and main points of a book, play, television program, film, videotape, etc.
○ 2. Demonstrate addition of words to oral vocabulary from various sources.
○ 3. Use appropriate tone of voice, volume and pattern of speech for oral reading, storytelling or dramatizations.
○ 4. Use conventional pronunciations for standard English in the classroom.
5. Recite selections of poetry, prose and drama from memory.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

○ 1. Formulate questions that require answers beyond the literal level.
○ 2. Follow or give multistep directions clearly and sequentially.
○ 3. Prepare and present a demonstration speech, a book or play analysis, an informational speech, an original story or poem or a persuasive speech to select audience.
○ 4. State main idea of oral message by citing details and following theme from introduction to conclusion.

K. Use and respond to verbal and nonverbal communication.

The learner will:

1. Use congruent nonverbal cues to emphasize meaning of own message.
○ 2. Analyze oral presentations of others for speaker's point of view, speaker's message, nonverbal cues that interfere with or support message, inferences made, fact, opinion, opinion disguised as fact and speaker's purpose.
○ 3. Listen and respond to news broadcasts, editorials, speeches, political appeals, etc., for a variety of purposes: pleasure and enjoyment; directions; intelligent consumer judgments; effective citizenship.
○ 4. Determine and summarize differences of opinion in discussions and debates.

# Mathematics

## LEVEL VII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

● 1. Compare any two positive rational numbers using <, > and =.
● 2. Write equivalent forms of fractions, decimals and percents. Example: ¼ = .25 = 25%.
3. Investigate numerical sequences.
● 4. Classify any number < 101 as prime or composite.
5. Use the commutative, associative, distributive and inverse properties with positive rational numbers.
● 6. Identify the place value of each digit in decimal fractions.
● 7. Graph points representing rational numbers on a number line.

B. Apply the basic operations in computational situations.

*The learner will:

1. Compute the sum, difference, product or quotient of integers.
● 2. Compute the sum, difference, product or quotient of fractions.
3. Recall from memory fraction/decimal/ percent equivalents. (Use fractions with denominators of 2, 3, 4, 5, 8, 10.)
● 4. Use operations in the correct order to evaluate numerical expressions containing exponents.
5. Investigate the inverse relationship between powers and roots.
● 6. Convert whole numbers to scientific notation and convert scientific notation to whole numbers.
7. Compute or identify common multiples and common factors of a set of numbers.
8. Mentally multiply and divide decimal numbers by powers of 10.
● 9. Solve percent problems (all variations).
●10. Supply the missing number in a number sentence involving positive rational numbers.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Estimate distances and measurements in both metric and traditional units.
○ 2. Use computational estimation strategies to produce reasonable estimates.
● 3. Solve problems requiring estimation with percents, fractions and decimals.
○ 4. Use estimation strategies and mental computation to determine if an answer is reasonable.

D. Apply the concept of measurement to the physical world.

*The learner will:

● 1. Measure lengths to the nearest eighth inch and to the nearest millimeter.
2. Calculate an approximate value of "pi" after measuring circumferences and diameters of circles.
● 3. Use the formulas to calculate the perimeter and the area of a triangle.
● 4. Use the formulas to calculate the circumference and the area of a circle.
○ 5. Approximate areas and perimeters of irregularly shaped regions.
● 6. Choose an appropriate unit of precision for a given measurement situation. Example: Choose nearest quarter inch as opposed to nearest inch where appropriate.

E. Recognize geometric relationships.

*The learner will:

○ 1. Measure a given angle and draw an angle of given measure, using a protractor.
● 2. Identify right triangles by inspection.
3. Classify a given quadrilateral as a parallelogram, rectangle, square, rhombus, trapezoid or other.
○ 4. Identify the plane geometric figures which form the surfaces of three-dimensional objects. Example: cylinder formed with two circles and a rectangle.

F. Use statistical techniques and interpret statistical information.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

The learner will:

● 1. State the probability of an event occurring.
● 2. Interpret statements involving probability.
3. Determine and interpret the mean, median and mode of a given set of data.

G. Apply problem-solving strategies.

The learner will:

○ 1. Create a word problem to illustrate a given numerical sentence.
● 2. Write a number sentence to illustrate a word problem.
● 3. Solve multistep problems.
○ 4. Identify unnecessary or missing numerical data in a word problem.
5. Read charts and tables.

H. Solve problems in consumer situations.

The learner will:

● 1. Solve problems involving perimeter, area and volume in consumer situations.
● 2. Solve problems involving percent in consumer situations (sales tax, rate and amount of discount, commission, interest, percent of change, etc.).
● 3. Solve problems using ratio and proportion in consumer situations (better buy, scale drawing, recipe conversion, etc.).

# Mathematics

## LEVEL VIII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

● 1. Compare any two rational numbers using $<$, $>$, $=$, $\leq$ or $\geq$.
● 2. Write equivalent forms of fractions, decimals and percents. Example: $\frac{1}{4} = .25 = 25\%$.
● 3. Continue a sequence formed by multiplying each previous term by a constant (geometric sequence).
● 4. Express a composite number as the product of prime factors.
5. State the additive and multiplicative inverses of given rational numbers.

B. Apply the basic operations in computational situations.

*The learner will

● 1. Compute the sum, difference, product or quotient of integers.
● 2. Compute the sum, difference, product or quotient of fractions.
● 3. Compute the sum, difference, product or quotient of decimals.
4. Recall from memory fraction/decimal equivalents for these fractions: $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$.
● 5. Use operations in the correct order to evaluate numerical expressions containing exponents.
6. Determine powers, square roots and cubic roots where the results are whole numbers.
7. Express decimal numbers in scientific notation.
● 8. Compute or identify common multiples and common factors of a set of numbers.
9. Mentally multiply and divide decimal numbers by powers of 10.
10. Use proportions to solve percent problems.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Estimate distances and measurements in both metric and traditional units.
● 2. Determine an interval of reasonable estimates for a given problem.
○ 3. Solve problems requiring estimation with percents, fractions and decimals.

D. Apply the concept of measurement to the physical world.

*The learner will:

● 1. Measure lengths to the nearest sixteenth inch and to the nearest millimeter.
2. Calculate an approximate value of "pi" after measuring circumferences and diameters of circles.
● 3. Know and use the formulas to calculate the perimeter and the area of a triangle.
● 4. Know and use the formulas to calculate the circumference and the area of a circle.

E. Recognize geometric relationships.

*The learner will:

● 1. Draw an angle of given measure using a protractor and a straightedge; classify it as acute, right or obtuse.
● 2. Classify a given triangle as scalene, isosceles or equilateral, or as acute, right or obtuse.
● 3. Classify a given quadrilateral as a parallelogram, rectangle, square, rhombus, trapezoid or other.
● 4. Classify polygons that are pentagons, hexagons and octagons.

F. Use statistical techinques and interpret statistical information.

*The learner will:

● 1. Interpret circle graphs (pie charts).
● 2. State the coordinates of and plot points in the Cartesian plane.

G. Apply problem-solving strategies.

*The learner will:

1. Create a word problem to illustrate a given numerical sentence.
● 2. Read and follow flow charts.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

H. Solve problems in consumer situations.

The learner will:

- 1. Compute take-home pay, given salary and deductions.
- 2. Compute simple interest when the formula is not supplied.
- 3. Compute the actual cost of an item purchased on an installment plan.
- 4. Solve problems involving surface area in consumer situations (paint, carpet, sod, shingles, etc.).
- 5. Solve problems using ratio and proportion in consumer situations (better buy, scale drawing, recipe conversion, map reading, sales tax, rate and amount of discount, etc.).

# Science

## LEVEL VII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe physical properties and changes of objects, organisms and events by using appropriate sense(s) and equipment/materials.

*The learner will:
● 1. Identify the principal characteristics of each vertebrate class.
2. Determine by touch the relative temperatures of various surfaces on a sunny day.
● 3. Observe and identify the planets in the evening sky at various times of the year.
○ 4. Observe and record the phase changes of the moon for one lunar month.
○ 5. Observe the physical properties of igneous, sedimentary and metamorphic rocks.
6. Observe the effects of weathering and erosion in your community.

B. Classify by grouping objects or events into categories according to similarities, differences, patterns and/or relationships.

*The learner will:
● 1. Classify members of a food web as producers, consumers or decomposers.
● 2. Classify plants and animals according to the biomes in which they live.
○ 3. Rank household appliances according to their energy consumption.
4. Classify liquids according to density.
● 5. Classify examples of common elements as solids, liquids or gases.
● 6. Classify cloud types into basic groups.
○ 7. Classify stars according to surface temperature and size.

C. Measure matter, energy, space and time by selecting and using appropriate instruments and/or indicators.

*The learner will:
○ 1. Measure the length of a shadow of a given object on the autumnal equinox, winter solstice and vernal equinox.
2. Graph the daily readings from a barometer and thermometer during a given period of time.
● 3. Measure mass, length, volume and temperature using the appropriate tools and metric units.
● 4. Produce pie and bar graphs using data provided on energy production and consumption.
○ 5. Collect data on student height and mass in metric units, and construct a graph by plotting the height on the vertical axis and the mass on the horizontal axis.

D. Communicate observations or findings by defining, drawing, recording data, graphing and mathematical analysis.

*The learner will:
○ 1. Compare and contrast the images formed by concave and convex lenses.
○ 2. Describe the interactions between lines of force of like and unlike poles of bar magnets.
3. Describe the properties of mixtures and solutions.
● 4. Name, draw and describe the component parts and structure of a model of an atom.
● 5. Describe and conduct mineral identification tests: hardness, cleavage, streak, luster, specific gravity and reaction to acid.
○ 6. Trace the path of a blood cell through the human heart and lungs.
7. Describe conservation practices which protect wildlife.
○ 8. Describe the crustal features (mid-ocean ridges, deep ocean trenches, continental fit) that provide evidence for plate tectonics.
9. Trace the flow of energy through a forest or aquatic community.
○10. Describe the conditions under which clouds and fog form.
○11. Describe the major steps in water purification (filtration, precipitation, aeration, chlorination).

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

○12. Describe the formation and effects of acid rain.
○13. Describe the greenhouse effect.
●14. Describe the water cycle in terms of kinetic energy.
●15. Differentiate between asexual and sexual reproduction in plants and animals.
●16. Relate seasons to the earth's motion and tilt.

E. Infer by formulating an interpretation (a) using immediate and/or past observations or findings and (b) distinguishing between fact and opinion.

The learner will:

● 1. Infer the crustal plate boundaries from data on the location of earthquakes and volcanoes.
2. Infer the effect of exercise on heart rate.
3. Infer the effects of radioactive pollution on food chains.
○ 4. Infer how new knowledge of the solar system helps us better understand our earth.
○ 5. Infer the insulating qualities of various materials.
● 6. Infer the effects on physical and emotional development caused by hormonal changes during puberty.
○ 7. Infer the variables which can change a weather forecast.

F. Predict by forecasting future events or conditions based upon patterns identified from past observations or inferences.

The learner will:

○ 1. Predict the pitch of a sound compared to the size of the vibrating object.
○ 2. Predict force changes of direction and magnitude using simple machines.
● 3. Predict the weather changes associated with various weather fronts.
○ 4. Predict the deposition rate of sediments as a function of particle size, weight and shape.
5. Predict daily and monthly temperature extremes associated with changes in angle of the sun's rays.
○ 6. Predict the rate of photosynthesis under various environmental conditions.
● 7. Predict the health effects of continued, long-term use of tobacco, alcohol and controlled substances.
○ 8. Predict several ways the human immune system would respond to foreign materials.

G. Identify the variables in an investigation: (a) the ones held constant, (b) the one which is deliberately manipulated and (c) the one which is recorded as the result of the investigation.

The learner will:

● 1. Identify the variables that are necessary to maintain a healthy body.
2. Identify the variables that affect crystal size.
○ 3. Identify the variables that affect the rate of chemical change.
● 4. Identify the variables that affect pitch of vibrating objects.
○ 5. Identify the variables that affect relative humidity.

H. Formulate hypotheses based on predictions, inferences, observations or on tenable combinations of these.

The learner will:

○ 1. Develop hypotheses to explain the extinction of dinosaurs.
○ 2. Hypothesize the physical changes in the earth that might occur assuming a small continuous change over a long period of time.
3. Hypothesize the short- and long-term results of decomposition of buried organic and inorganic wastes.
4. Develop a hypothesis to explain why weeds are successful.
○ 5. Hypothesize the growth rates of plants under various colored lights.

I. Experiment by: (a) formulating a hypothesis; (b) designing a plan to manipulate the variables to test the hypothesis; (c) selecting appropriate equipment and materials; (d) carrying out the planned experiment; (e) recording and interpreting the results; and (f) confirming or rejecting the hypothesis.

The learner will:

1. Design an experiment to determine which detergent can best clean a soiled cloth.
○ 2. Design an experiment to determine the response of small invertebrates to various environmental conditions (light, temperature, moisture, soil types, etc.).
○ 3. Design an experiment to compare the accuracy of homemade weather instruments with that of commercial instruments.
● 4. Design and conduct a controlled experiment which employs acceptable inquiry methods.

# Science

## LEVEL VIII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe physical properties and changes of objects, organisms and events by using appropriate sense(s) and equipment/materials.

*The learner will:

● 1. Identify similarities in and differences between plant and animal cells using prepared microscope slides and/or photomicrographs.
2. Observe changes in plants due to stimuli such as light and gravity.
● 3. Identify the major structural and functional characteristics of representative vascular and nonvascular plants.
○ 4. Observe the differences in minerals using tests such as hardness, cleavage, fracture and streak.
○ 5. Observe the presence of an electrical current using a galvanometer.
● 6. Observe an electrolytic cell and describe its function.
7. Observe major structural differences between lower- and higher-level organisms (e.g., earthworm and frog).

B. Classify by grouping objects or events into categories according to similarities, differences, patterns and/or relationships.

*The learner will:

● 1. Classify selected animals into their proper classes according to their similarities and differences.
2. Classify examples of dominant and recessive traits.
3. Classify types of precipitation.
○ 4. Classify common rocks into igneous, metamorphic or sedimentary types.
5. Categorize various geological features according to the processes which formed them.
6. Classify volcanoes of different types by shape and composition.
7. Compare and contrast refracting and reflecting telescopes.
8. Classify materials as insulators or conductors of sound.
9. Classify a group of objects as conductors, nonconductors or semiconductors of electricity.
●10. Describe and draw the characteristics of a wave (wavelength, trough, crest, amplitude, frequency).
11. Classify compounds as acids, bases or salts.
●12. Classify a variety of energy sources as kinetic or potential and describe how they may be transformed.
●13. Differentiate among atoms, elements, molecules and compounds.
14. Classify several substances as being mixtures or solutions.
●15. Group examples of energy sources as renewable, nonrenewable and/or inexhaustible.

C. Measure matter, energy, space and time by selecting and using appropriate instruments and/or indicators.

*The learner will:

● 1. Measure and record the air temperature, barometric pressure, relative humidity and wind speed using the appropriate instruments.
2. Identify methods of determining whether a solution is alkaline, neutral or acidic.
○ 3. Measure mass, length, volume and temperature using the appropriate tools and metric units.
○ 4. Measure the mass and volume of an object and compute its density.
5. Measure the population of selected species in an area.

D. Communicate observations or findings by defining, drawing, recording data, graphing and analyzing mathematically.

*The learner will:

● 1. Describe the purposes and functions of the major parts of plant and animal cells.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

● 2. Describe the functions and relationships among various human body systems.
○ 3. Describe the characteristics which distinguish living from nonliving things.
4. Identify and describe conservation practices.
○ 5. Explain the effect of different angles of the sun's rays upon climatic regions.
● 6. Describe the various methods for obtaining static charges.
● 7. Describe examples of heat transfer by conduction, convection and radiation.
8. Write chemical formulas for some common compounds and explain the meaning of the various formulas.
○ 9. Distinguish between temperature and heat.
10. Describe the reactants and products of a chemical reaction.
●11. Identify the number of protons, neutrons and electrons of a common element using the periodic table and other information.
12. Explain thermal expansion using the kinetic theory.

E. Infer by formulating an interpretation (a) using immediate and/or past observations or findings and (b) distinguishing between fact and opinion.

The learner will:
1. Infer from examples of environmental conditions the ways in which living things would adapt in order to survive.
● 2. Infer the environmental effects of pollution.
3. Infer from statements of weather myths and facts the critical attributes of each.
○ 4. Infer the relative ages of sedimentary strata from the law of superposition.
5. Infer possible origins of our solar system based upon evidence presented.
6. Infer from past experiences and/or given situations what force changes caused accelerations (e.g., elevator, roller coaster).
7. Recognize and explain kinetic and potential energy contained within given systems.

F. Predict by forecasting future events or conditions based upon patterns identified from past observations or inferences.

The learner will:
1. Predict the next phase of the moon when given its present phase.
● 2. Predict the weather for a short period of time from given data.
3. Predict the path of light directed through different media (e.g., water, smoke).
4. Predict what will be seen with various combinations of colored light reflected from colored objects.
5. Predict the series of changes in an ecological community after a fire.

G. Identify the variables in an investigation: (a) the ones held constant, (b) the one which is deliberately manipulated and (c) the one which is recorded as the result of the investigation.

The learner will:
1. Identify the variables in a specific ecosystem.
● 2. Identify the variables that affect the period of a pendulum, and tell how the period is affected by these variables.
3. Identify the variables which affect the rate of diffusion.

H. Formulate hypotheses based on predictions, inferences, observations or on tenable combinations of these.

The learner will:
○ 1. Hypothesize several ways organisms would respond to drastic environmental changes.
○ 2. Develop hypotheses about the effects of different human diets consisting of high and low concentrations of various nutrients.
○ 3. Hypothesize the relationship between the energy from the sun and its effect on planets as a function of their distance from the sun.
○ 4. Develop a hypothesis that relates relative humidity to electrostatic charge.

I. Experiment by: (a) formulating an hypothesis; (b) designing a plan to manipulate the variables to test the hypothesis; (c) selecting appropriate equipment and materials; (d) carrying out the planned experiment; (e) recording and interpreting the results; and (f) confirming or rejecting the hypothesis.

The learner will:
○ 1. Identify the variables and controls presented in a laboratory experiment involving osmosis and reach a conclusion from the given data.
○ 2. Design an experiment that measures the growth of plants in which a single growth condition has been varied; record/graph the data.
○ 3. Design and conduct an experiment which demonstrates physical and/or chemical changes.
○ 4. Design an experiment to show the effect on plants of removing light, water, carbon dioxide or oxygen.

J. Solve problems by using logical processes to: (a) identify the problem; (b) generate alternative choices; (c) select the best alternative in terms of personal values and local community standards; and (d) test and evaluate the choice.

The learner will:

1. Identify the social implications of the United States space program and evaluate each in terms of value to society.
○ 2. Evaluate the mechanical efficiency of a simple machine compared to a compound machine.
● 3. Identify problems caused by overpopulation and develop possible solutions.

# Social Studies/Civics

## LEVEL VII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

## Geography

A. Demonstrate knowledge of place geography.

*The learner will:

● 1. Locate the following places in the United States on maps, and describe how their locations relate to each other:
   - The 50 states
   - Rocky Mountains, Appalachian Mountains, Sierra Nevada Mountains, Cascade Range, Ozark Highlands
   - The Great Plains
   - Rio Grande, Missouri, Mississippi and St. Lawrence Rivers
   - Great Lakes
   - Washington, D.C., New York City, St. Louis, Kansas City, Chicago and Los Angeles

● 2. Locate the following places of the world on maps and globes, and describe how their locations relate to each other:
   - Europe, Asia, Australia, Africa, North America, South America and Antarctica
   - Pacific, Atlantic, Indian and Arctic Oceans
   - Mediterranean Sea, Gulf of Mexico, Caribbean Sea
   - Himalayas, Alps, Andes Mountain Ranges
   - Great Britain, France, Spain, the United States, Mexico, Canada, the Soviet Union, the Republic of China, Japan, India, Brazil, Egypt and the Republic of South Africa

3. Identify characteristics associated with different regions on the globe (arctic regions, areas by rivers, mountainous regions, desert regions and densely populated areas).

○ 4. Identify places currently in the news on maps and globes.

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

● 1. Predict consequences of given changes in a community's, city's or region's population, organization and living patterns, environment, or technology. (Examples of types of changes: changing a park to a shopping mall or changing a farm to a residential area.)

2. Indicate reasons for locations of major cities studied. (1)

3. Identify problems related to people's use of the environment, and recommend ways of protecting the environment while meeting human needs.

C. Demonstrate an understanding of spatial relationships.

The learner will:

1. Identify and explain certain spatial distributions. (2)
2. Explain how a place's climate relates to its location on the earth.
3. Identify and describe consequences of major changes in spatial interactions. (3)

D. Use map-reading and map-making skills.

*The learner will:

1. Locate unfamiliar places using an atlas.

2. Find specific places on maps using different kinds of grid systems.

● 3. Use particular maps to:
   - Determine types of information that may be obtained from them.
   - Find specific places for which latitudes and longitudes have been given.
   - Describe how given places relate to each other (proximity, direction, similarity of features, etc.).
   - Determine distances using scales.

4. Select appropriate maps for specific purposes.

## History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

The learner will:

● 1. Read and interpret time lines.

● 2. Infer cause-effect relationships implied in given written passages.

○ 3. Describe causes, consequences and sequences of historical events studied.

○ 4. Describe the roles of certain individuals and groups in connection with historical events studied.

5. Analyze current problems and events by comparing them to analogous events from the past.

F. Understand how people's positions and experiences influence their views of events.

The learner will:

○ 1. Describe the differences in how various people perceive and judge given events, and explain why their perceptions and judgments differ.

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

● 1. Identify examples of democratic governmental practices, rules and laws that promote specific democratic values (freedom, justice, equality, domestic tranquility, general welfare, popular sovereignty, rule of law and due process of law).

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

● 1. Classify government activities as legislative, executive or judicial.

2. Describe how major officials (President, governors, legislators and judges) are chosen for office in our system.

3. Identify examples of how the different branches of government can restrict actions of each other in the U.S. system of checks and balances.

4. Describe how rules and laws are made in our society.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

● 1. Identify and describe rights and responsibilities of citizens of the United States.

○ 2. Distinguish between rights and responsibilities of adults and those of juveniles.

3. Predict likely consequences when citizens do not carry out responsibilities in specific cases.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

○ 1. Identify ways to promote effective group decision making, and act in accordance with those ways: practice courteous behavior, follow rules and established discussion procedures, listen to others, contribute ideas, suggest alternatives, withhold judgment until important facts are known, and accept decisions of the group once a final decision has been made.

● 2. Identify groups or individuals with authority to bring about changes in the school and community; identify constructive ways of resolving problems in the school and community.

3. Identify political leaders at the local, state and national levels.

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

○ 1. Identify arguments on both sides of specific local issues. (For example, a city wants to close a factory which employs many workers because it is polluting the river; the state wants to take rich farmland for a highway; a city wants an office building on a site now occupied by a historic one-room schoolhouse.)

L. Apply analytic skills to political messages and discussions.

The learner will:

● 1. Distinguish between statements of fact and opinion.

2. Identify the points of view of individuals who take opposing views on issues of public policy, and evaluate the reasons they give to support their positions.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

● 1. Use rational decision-making processes when making or analyzing economic decisions. This process includes: (a) defining the problem and identifying goals in conflict; (b) listing alternatives; (c) stating and rating criteria; (d) evaluating alternatives; and (e) making decisions with awareness of trade-offs. (4)

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

● 1. Identify examples of and use the following terms related to production: "natural resources," "human resources," "capital resources," "technology," "specialization," "productivity" and "investment." (5)

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

○ 1. Explain how financial institutions serve as intermediaries to channel savings to business investment, and describe the role of interest in the process.

2. Predict consequences of changes in interest rates on household saving and borrowing and on business borrowing.

P. Understand relationships among supply, demand, price and quantity of goods and services.

The learner will:

● 1. Identify factors causing changes in the quantity of goods or services bought or sold in specific situations and how those changes affect price.

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

1. Identify factors contributing to changes in level of employment, income and production of goods and services in a community, industry or nation.

R. Understand principles related to trade (personal, regional or international).

The learner will:

● 1. Identify examples of specialization, and indicate how and why different regions specialize in the production of goods and services.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify role expectations of various positions (president, group leader, father, daughter, employee, team captain, etc.) in the community, the government, the workplace, the school and the home.
2. Identify consequences of individual's fulfilling or failing to fulfill role expectations connected with positions they have in groups.
3. Differentiate between positions that are achieved and assigned. (6)
4. Analyze situations in which an individual has role expectations that conflict with one another. (For example, a parent expected to be home for his child's birthday party is also expected by his employer to work overtime to meet a deadline.)

T. Understand institutions and processes for meeting basic human needs.

The learner will:

1. Describe the impact of family, religion, government, education, media, the arts, business and other institutions on U.S. culture and other cultures studied.

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

○ 1. Compare how people from other cultures differ in perceptions and judgments of events in their lives with people in this culture.

2. List factors that influence the development of a particular culture.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

● 1. Use effective methods to research topics: library research, interviews, surveys, examination of artifacts, and controlled experiments.

● 2. Identify resources in the library that may be used to investigate given topics related to history or geography: card catalogs, *Readers' Guide*, encyclopedias, atlases, almanacs, periodicals, fiction and nonfiction books.

● 3. Interpret information found in given graphs, charts and tables.

4. Analyze historical resources by distinguishing between primary and secondary sources and by identifying biases and reasons for them.

## Notes

(1) In this and several other learner outcomes, the word "studied" is used as a signal that the specific content to which the objective applies is left to the local school district or classroom teacher.

(2) "Spatial distributions" refers to natural or man-

made patterns of how places are located in relationship to each other. Examples of natural spatial distributions include beaver dams on streams or predictable variations of plant and animal species as one travels from the equator toward the North or South Poles or travels from low to high elevations. Man-made spatial distributions include arrangement of rooms in buildings, organization of space in cathedrals, arrangement of towns and cities in rural areas, layout of different districts of cities and so on. Spatial distributions are influenced by topography, functions, tastes and technologies.

(3) "Spatial interactions" refers to those interactions among people of different places resulting from communication and transportation linkages.

(4) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Determining trade-offs involves considering the things you choose not to have to get something.

(5) "Natural resources" refers to land and raw materials used in producing goods and services. "Human resources" refers to the intellectual and physical labor of people used in producing goods and services. "Capital resources" refers to manufactured items (buildings, machinery, tools, roads, etc.) used in producing goods and services. "Technology" refers to the processes and knowledge used in producing goods and services. "Specialization" refers to an individual, business, region or country producing a smaller range of goods and services than it consumes. "Productivity" refers to the amount of output per unit of input, usually labor. "Investment" refers to the use of resources by business, individuals or government to increase productive capacity by developing new technology, creating capital resources or enhancing the quality of the work force.

(6) Some positions people have are given at birth or may be assigned. These include one's sex or race, and one's being a son, daughter, grandfather, member of royalty in Great Britain or member of a given caste in a nation with a caste system. Other positions are achieved. These in the United States include being quarterback on a football team, being bride or groom, being president of a bank or being a student at a certain university.

# Social Studies/Civics

## LEVEL VIII

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Geography

A. Demonstrate knowledge of place geography.

*The learner will:

● 1. Locate the following places in the United States on maps, and describe how their locations relate to each other:
  - The 50 states
  - Rocky Mountains, Appalachian Mountains, Sierra Nevada Mountains, Cascade Range, Ozark Highlands
  - The Great Plains
  - Columbia, Colorado, Rio Grande, Missouri, Mississippi, Ohio and St. Lawrence Rivers
  - Pacific, Mountain, Central and Eastern Time Zones
  - Great Lakes
  - Washington, D.C., New York City, Boston, Atlanta, Chicago, St. Louis, Kansas City, Salt Lake City, Denver, Los Angeles, San Francisco, Seattle, New Orleans, Dallas, Detroit

● 2. Locate the following places of the world on maps and globes, and describe how their locations relate to each other:
  - Europe, Asia, Australia, Africa, North America, South America, Antarctica
  - Amazon and Nile Rivers
  - Pacific, Atlantic, Indian and Arctic Oceans
  - Mediterranean Sea, Gulf of Mexico, Caribbean Sea
  - Himalayas, Alps, Andes and Sierra Madre Mountain Ranges
  - Canada, Mexico, Argentina, Brazil, Chile, Cuba and Panama; Great Britain, Ireland, France, Italy, Germany (East and West) and the Soviet Union; China, India and Japan; Egypt, South Africa and Nigeria
  - The Middle East and Central America
  - Tropical, temperate and arctic regions

○ 3. Describe approximate locations of other countries not listed above so they can be found rapidly.

4. Describe characteristics associated with particular regions: tropical, temperate and arctic; mountainous; desert; industrial; cash-crop farming; subsistence farming; large river systems; specific cities and states; etc.

5. Predict one or more characteristics (topography, industry, population, etc.) of a region or place, given other characteristics of the region or place.

○ 6. Locate places in the news on appropriate maps and globes.

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

● 1. Predict consequences of given changes in a community's, city's or region's population, organization and living patterns, environment, or technology. (Examples for this learner outcome at this level are taken from pre-Twentieth-Century U.S. history and the present.)

C. Demonstrate an understanding of spatial relationships.

*The learner will:

1. Describe and explain changes in spatial distributions based on historical developments studied. (1)

2. Identify and describe consequences of major changes in spatial interactions. (2)

D. Use map-reading and map-making skills.

*The learner will:

○ 1. Locate unfamiliar places using an atlas.

○ 2. Select appropriate maps for specific purposes.

● 3. Use particular maps to:
  - Determine the type of information that may be obtained from them.
  - Find specific places for which latitudes and longitudes have been stated.
  - Describe how given places relate to each

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

other (proximity, direction, similarity of features, etc.).
- Determine distances using the scale.
- Identify distortions.

## History

E. Demonstrate knowledge of significant historical events and developments, how they relate to each other and to the present.

The learner will:

● 1. Describe or identify major causes, major consequences and sequences of major historical events and developments in early American history.
  - Early exploration
  - Early European settlement
  - Conflict for control of North America by European colonial powers
  - American Revolution
  - Constitution and Bill of Rights

● 2. Describe or identify major causes, major consequences and sequences of major historical events and developments in 19th Century U.S. history.
  - Territorial expansion
  - Monroe Doctrine
  - Jacksonian Democracy
  - Relationship with native Americans
  - Sectionalism/Civil War/Reconstruction
  - Immigration
  - Industrial Revolution

○ 3. Describe the roles of certain individuals and groups studied in connection with the events cited in E-1 and E-2.

○ 4. Analyze current problems and events by comparing them to analogous situations from the past.

F. Understand how people's positions and experiences influence their views of events.

The learner will:

○ 1. Identify how significant historical events and developments of U.S. history (see E-1 and E-2) were perceived and judged by people of different backgrounds and social positions. (For example, how was slavery viewed by an abolitionist, by a slave about to be sold and separated from wife and child, or by a plantation owner?)

2. Compare the rights and options of blacks and women in pre-Civil War United States with those of blacks and women today.

○ 3. Indicate how differing points of view toward historical events make the writing of history a complex task.

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

● 1. Identify democratic ways of selecting leaders and making decisions.

2. Explain the functions of a constitution.

● 3. Identify the primary democratic values implicit in the U.S. Constitution (freedom, justice, equality, general welfare, etc.) and rules and laws that promote and protect those values.

4. Define "democracy" and "republic" and illustrate with examples.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

● 1. Apply knowledge of U.S. and Missouri law making procedures to predict next steps for bills in given cases. Identify reasons for and consequences of those procedures.

2. Compare powers and activities of executive, legislative and judicial branches of government in Missouri and the United States.

● 3. Match major government offices with their respective branches and levels of government; identify major powers and responsibilities of those offices.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

● 1. State meanings of basic rights and liberties listed in the Constitution.

2. Identify rights denied or restricted in given cases.

3. Compare rights and responsibilities of United States and Missouri citizens who are minors with those who are adults.

4. Identify obligations assumed when one enters a legal contract.

5. Explain why becoming informed before voting and participating in political affairs is an important responsibility of citizens.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

1. Describe how negotiation, mediation and arbitration are used to resolve conflicts.

● 2. Describe ways citizens may influence the government; evaluate strategies used in given cases according to their lawfulness and effectiveness.

○ 3. Identify and use constructive strategies to resolve problems: listen carefully and receptively to ideas of others; ask for clarification and elaboration of others' ideas; state the nature of disagreements; seek areas of agreement; participate in the discussion in ways consistent with parliamentary procedures, etc.

○ 4. Work effectively with others in discussions and in making and carrying out decisions.

○ 5. Identify important political leaders, and state their positions on current issues studied.

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

● 1. Identify democratic values or rights underlying arguments on both sides in given political issues.

L. Apply analytic skills to political messages and discussions.

The learner will:

○ 1. Distinguish between opinion and fact in the media.

2. Interpret political cartoons by identifying the message and viewpoint of the cartoonist.

3. Identify the points of view of individuals who are speaking or writing on topics of political controversy, and evaluate evidence used to support their points of view.

○ 4. Apply productive strategies for group decision making: define the issue; identify important facts and conflicting values; select criteria to judge decisions; formulate alternative resolutions and project consequences; make a tentative decision and justify the decision; monitor implementation and amend the decision as needed.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

1. Identify trade-offs among economic goals (economic freedom, efficiency, equity, security, employment, growth, etc.) in situations where the government makes simple economic decisions. (3)

● 2. Use a rational decision-making process when making or analyzing major economic decisions made by individuals. The process includes: (a) defining the problem with identification of goals in conflict; (b) listing alternatives; (c) stating and rating criteria; (d) evaluating alternatives; and (e) making a decision with awareness of trade-offs and opportunity costs involved.

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

● 1. Predict likely consequences for an industry or nation when changes occur in one or more of the following: natural resources, human resources, capital resources, technology, specialization, productivity or investment. (4)

2. Identify major current and historical changes that have led to economic growth over time (increases in the quantity and quality of resources; increased efficiency through improvements in technology, etc.).

3. Describe why businesses or nations strive to increase productivity in specific cases.

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and governments in this and other economic systems.

The learner will:

1. Explain how financial institutions serve as intermediaries to channel savings to business investment, and describe the role of interest in the process.

2. Identify costs and benefits for individuals and businesses of various government regulations dealing with such matters as health, safety, fairness and equity.

P. Understand relationships among supply, demand, price and quantity of goods and services in market economies.

The learner will:

● 1. Explain factors causing changes in the supply or demand for goods and services and consequences resulting from those changes. (5)

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

● 1. Identify factors contributing to growth or decline in the total output of goods and services of an industry, region or nation; identify consequences of such growth or decline.

R. Understand principles related to trade (personal, regional or international).

The learner will:

1. Apply the concept of "comparative advantage" to trade of goods and services within the United States. (6)

2. Identify, with concrete examples from U.S. history, advantages of economic interdependence among regions, and tell how regional interdependence has contributed to national development.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify role expectations of various positions in government, the workplace, school and home.
2. Identify consequences of fulfilling or failing to fulfill role expectations.
3. Analyze cases in which the role expectations of an individual are in conflict. (Tell what the problem is, the role expectations that are in conflict and the consequences that could follow, depending on how the problem is handled.)
4. Describe how role expectations of various positions (parent, student, president, etc.) differ, depending on the culture.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

1. Describe the impact of family, religion, government, education, media, the arts, business and other institutions on U.S. culture and other cultures studied.

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

1. Illustrate how people from various cultural backgrounds have developed beliefs, practices and value priorities that sometimes vary profoundly.

V. Understand and use techniques for investigating social studies topics.

The learner will:

● 1. Use effective, appropriate methods to research a topic: library research, interviews, examination of artifacts, controlled experiments, etc.

○ 2. Identify resources in the library that may be used to investigate given topics related to history or geography: card catalogs, *Readers Guide*, encyclopedias, atlases, periodicals, fiction and nonfiction books.

3. Analyze historical resources by distinguishing between primary and secondary sources and by identifying biases and reasons for them.

4. Draw inferences about characteristics of a place (region) from maps, statistical data, narrative descriptions or visual depictions (photographs, drawings, prints, etc.).

## Notes

(1) "Spatial distributions" refers to patterns of places in relation to each other, such as cities located beside rivers, mills beside rivers, living quarters of workers near factories in 19th century towns, etc.

(2) "Spatial interactions" refers to interactions of people in different places resulting from communication and transportation linkages.

(3) "Trade-offs" refers to giving up part or all of one goal in order to achieve part or all of another goal.

(4) "Natural resources" refers to land and raw materials used in producing goods and services. "Human resources" refers to the intellectual and physical labor of people used in producing goods and services. "Capital resources" refers to manufactured items (buildings, machinery, tools, roads, etc.) used in producing goods and services. "Technology" refers to the processes and knowledge used in producing goods and services. "Specialization" refers to an individual, business, region or country producing a smaller range of goods and services than it consumes. "Productivity" refers to the amount of output per unit of input, usually labor. "Investment" refers to the use of resources by business, individuals or government to increase productive capacity by developing new technology, creating capital resources or enhancing the quality of the work force.

(5) Changes in supply and demand often are misunderstood. A change in supply is a condition where producers are willing to produce more or less of a good or service when the price does *not* change. The condition in which producers produce more of a good or service because the price rises is not, according to economists, a change in supply. Similarly, a change in demand is a condition where the quantity of a good or service people are willing to buy increases or decreases when the price does *not* change. The condition in which people buy more of a good or service because the price is reduced, as in the case of a sale, is not, according to economists, a change in demand. An example of a change in demand would be more people buying coffee at a football game at 50 cents a cup because it has suddenly become cold. An example of a change in supply would be fewer companies willing to produce widgets at $10.00 each because production costs have gone up and jeopardized profit.

(6) "Comparative advantage" is an important concept

for understanding why individuals, regions and nations specialize and trade. This term refers to the condition in which it pays for one producer to specialize in producing something and trade for something else, even if that producer could produce both products well. For example, a woman who is a gourmet cook and also an expert lawyer might decide it is to her advantage to devote her efforts to being a lawyer and to purchase meals at a restaurant, because the opportunity cost of her cooking fancy meals would be her income as an attorney. The same principle may be used to explain why Manhattan is a financial rather than an agricultural center, why Oregon is strong in timber and why Switzerland produces clocks and watches.

# Selected Resources for Levels VII and VIII
# Language Arts/Reading/English

## Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*A Writing Guide for Missouri Schools, K-12.* Suggests a philosophical framework for the teaching of writing and provides practical suggestions and activities for encouraging student interest and growth in writing. Provides suggestions for integrating writing in all curricular areas.

*A Guide for Children's Literature, K-8.* A resource guide of literature for students—poetry; folk-fairy tales, myths, hero stories; biography; historical fiction, etc.

*BEST Activity Book for Reading/Language Arts.* Suggests activities that deal with real-life reading/language arts activities appropriate for students and that relate to objectives tested by the Basic Essentials Skills Test.

## Publications and Articles

*Teaching Reading Comprehension.* Pearson, David P. and Johnson, Dale D. Holt, Rinehart and Winston, 901 North Elm Street, Hinsdale, Illinois 60521.

*Understanding Writing.* Newkirk, Thomas and Atwell, Nancie (ed.). Northwest Regional Exchange, Inc. Chelmsford, Maine 01824.

*Roots in the Sawdust.* Gere, Anne Ruggles (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Writing in the Secondary School.* Applebee, Arthur (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Perspective on Writing in Grades 1-8.* Haley-James, Shirley (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Evaluating Writing.* Cooper, Charles and Odell, Lee (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Research on Composing.* Cooper, Charles and Odell, Lee (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Classroom Strategies for Secondary Reading, 2nd. ed.* Harker, W. John (ed.) International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, Delaware 19714-8139.

*Research on Written Composition.* Hillocks, George Jr. (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Language Connections: Writing and Reading Across the Curriculum.* Fulwiler, Toby and Young, Art (ed.). National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*A Procedure for Writing Assessment and Holistic Scoring.* Myers, Miles. National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Classroom Applications of Writing Assessment.* Northwest Regional Educational Laboratory, 300 S.W. Sixth Street, Portland, Oregon 97204.

*Becoming a Nation of Readers.* The Center for the Study of Reading, University of Illinois, Champaign, Illinois 61821.

*Sentencecraft.* O'Hare, Frank. Ginn and Co., P.O. Box 2649, Columbus, Ohio 43216.

*Speech Communication for the Classroom Teacher.* Cooper, Pamela J.

## Video Tape Series

The following video cassette instructional programs are available from the Academic Support Center, University of Missouri-Columbia, 505 E. Stewart Road, Columbia, Missouri 65211. (314) 882-3652.

*In Other Words.* A series of twelve 15-minute video cassette programs in language arts designed for seventh and eighth grade. Topics include "Consider Your Audience," "Breaking Down a Topic," "Using the Words of Others" and "How Can I Get People to Listen?"

*WhatAbout.* A series of twelve video cassette programs for use in grades five through nine. Although this series deals with science-related topics, emphasis is placed upon use of such thinking skills as questioning, observing, classifying, predicting and communicating.

## Agencies and Organizations

International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, Delaware 19714-8139.

Missouri International Reading Association. Contact: Betsy Baker, 4203 S. Providence, Columbia, Missouri 65203.

National Council of Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

Missouri Association of Teachers of English, Dr. Peter Hasselriis, Treasurer, University of Missouri-Columbia 65211.

Missouri Speech and Theater Association of Missouri. Contact Dr. Dan Curtis, Central Missouri State University, Warrensburg, Missouri 64093.

## Developing and Evaluating Listening/Speaking Skills

Development of listening/speaking skills begin early in the individual's life—to the point that by the time a child enters school, he/she has been employing listening/speaking skills to meet individual needs for some time. This does *not* mean that skills essential for effective listening/speaking should not be extended by carefully planned instructional activities and assessed so that corrective measures can occur. Because listening/ speaking skills are not easily assessed by pencil and paper tests, a committee of members of the Speech and Theater Association of Missouri has provided suggestions for assessment of skills at the classroom level.

See Level III for suggestions for developing and evaluating skills in oral presentation and listening.

See Level VI for suggestions for developing and evaluating small group discussion skills.

## Rubric for Scoring Writing

Student papers for writing assessment will be scored by holistic methods. Papers will be evaluated on a scale from one to six. Each scoring level considers the following aspects of composition: focus, organization, development, mechanics, sentence structure and diction. The scale for eighth grade with descriptors for each level is as follows.

**SCORING LEVEL SIX**

a. *Focus* Has clear focus and sense of direction; responds directly to topic
b. *Organization* Includes logical progression of ideas and coherence; contains evident beginning, middle and end
c. *Development* Contains strong support, many specifics
d. *Mechanics* Has good to excellent mechanics; contains no major distracting errors
e. *Sentence structure* Possesses sentence clarity; possesses some sentence complexity and variety
f. *Diction* Includes mature and appropriate vocabulary and diction; shows freshness of expression

**SCORING LEVEL FIVE**

a. *Focus* Has focus and sense of direction; responds to topic
b. *Organization* Includes progression of ideas and coherence; contains beginning, middle and end
c. *Development* Contains good support, several specifics
d. *Mechanics* Has good to excellent mechanics; contains no major distracting errors
e. *Sentence structure* Possesses clear sentences, though they may lack variety and complexity
f. *Diction* Includes appropriate vocabulary and diction, though these may lack freshness and variety

**SCORING LEVEL FOUR**

a. *Focus* Has focus and sense of direction, though may be less evident than in higher categories
b. *Organization* Includes a generally logical progression of ideas, though may occasionally show lapses in coherence and less fully developed sense of beginning, middle, end
c. *Development* Contains details for support, but these details may lack specificity
d. *Mechanics* Has fair to excellent mechanics
e. *Sentence structure* Possesses clear sentences, though they may lack variety and complexity
f. *Diction* Includes appropriate vocabulary and diction, though these may lack freshness and variety

**SCORING LEVEL THREE**

a. *Focus* Has focus and sense of direction, but may be vague
b. *Organization* May contain some irrelevancies or digressions; may contain little sense of beginning, middle, end
c. *Development* Has details for support, but these details may lack specificity or appropriateness
d. *Mechanics* Has poor to excellent mechanics
e. *Sentence structure* Has sentences which are fairly clear but which lack maturity
f. *Diction* Has less sophisticated vocabulary and diction

**SCORING LEVEL TWO**

a. *Focus* May possess some focus and sense of direction, or may lack focus and direction altogether
b. *Organization* May lack coherence; may be characterized by digressions or irrelevancies; may have little sense of beginning, middle, end
c. *Development* May have little support or development, or support may be irrelevant
d. *Mechanics* Has poor to fair mechanics; often has distracting mechanical errors
e. *Sentence structure* May have immature sentences which lack clarity, complexity, and/or variety
f. *Diction* Has less sophisticated vocabulary and diction

**SCORING LEVEL ONE**

a. *Focus* May possess some focus and sense of direction, or may lack focus and direction altogether

b. *Organization* Lacks coherence; lacks sense of beginning, middle, end
c. *Development* Has little or no development or support
d. *Mechanics* Has poor to fair mechanics
e. *Sentence structure* May have immature sentences which lack clarity, complexity, and variety
f. *Diction* Has limited vocabulary and immature diction

**NOTE:** Errors in mechanics may lower a paper one to two categories.

# Suggested Topics for Student Writing

My first fight
My most embarrassing moment
The most stupid thing I ever did
My most serious accident
The wisest thing I ever did
Things I have lost
I'll never do that again!
The dog (or other pet) in my life
What our school needs most
Meet my family
I was scared!
A sports event I will never forget
The best class period this semester
A day I would like to forget
If I could do it over
How I learned to read
It's easier to blame others
Why I like (dislike) my name
Why . . . is my favorite sport
I like music because . . .
Why I want to be . . .
My idea of hard work is . . .
My idea of a good dinner is . . .
My idea of a dull evening is . . .
My dream vacation
My worst enemy
Three books I want to own and why
A character from fiction that I would like to meet is . . .
The day I receive my driver's license
The fear I overcame
My biggest gripe is . . .
My experiences as a baby sitter
An open letter to my parents
A curious dream
What a home ought to be
The picture of life one gets from TV
What it means to be poor
The most wonderful person I know
A brief description of myself
I wish I had lived in the time of . . .
The main street of my hometown
My favorite restaurant is . . .
My favorite meal is . . .
How to care for a cat (pet)
How to find happiness
How to prepare my favorite food
How to choose a friend
We can be proud of our school because

# The Missouri Basic Word List

The Missouri Basic Word List, a group of high-frequency use words needed in many subject areas, can serve as a sight vocabulary and as a source of spelling words for students. Words for Level VI should be reviewed during grade 7. Words in Level VIII should be taught during grades 7 and 8. By the end of grade 8, a student should have all words from all levels in his/her speaking, listening and reading vocabularies.

## Level VIII

ability
accurate
acquire
activity
additive
adequate
adhere
adjective
advantage
adverb
advocate
agriculture
aisle
antibiotic
antique
anxiety
appliance
applicant
appointment
approach
approximate
artificial
assemble
assess
assistance
athlete
athletics
atmosphere
atomic
attendance
attention
attitude
attorney

attractive
audience
auditorium
authority
automatic
automobile
caffeine
calculate
calculator
casualty
catalog
censor
chemical
chemistry
commission
compensate
competent
composition
condemn
conference
contaminated
convenient
convention
conversation
convict
demonstrate
description
detergent
determine
detour
development
diagram
diameter

dictionary
distance
distinguish
distribute
district
document
domestic
donate
dynamite
economic
economy
effect
efficient
eligible
emergency
empire
employees
entertain
environment
establish
estimate
etc.
ethical
evaluate
evidence
examination
exception
exclude
executive
exemption
experience
explosion
explosives

extensive
external
extinguisher
finance
flammable
focus
formula
function
guarantee
illustrate
immediate
impact
implement
incentive
incident
independent
individual
inflammable
information
initial
injure
inmate
inquire
inspect
instant
institution
instruction
instruments
insurance
integrate
integration
intelligent
internal

interior
international
interstate
interview
introduce
invalid
investigate
journal
junction
jungle
kindergarten
legislate
license
loitering
lounge
magazine
magistrate
mathematics
maximum
mechanic
merchandise
merge
merging
message
minimum
minister
minors
mischievous
misdemeanor
moisture
municipal
mystery
necessary

negotiate
nickel
niece
nominate
nutrition
nylon
observe
occupant
occupied
opinion
orchestra
ordinance
ordinary
organize
oxygen
pasteurize
patient
pedestrian
pension
percent
personnel
persuade
petition
petroleum
pharmacist
physical
pleasant
plus
policy
polluted
position
possession
poverty

predict
prefer
pressure
principal
principle
priority
private
probable
probably
problem
procedure
proceed
process
product
profession
professional
progress
prohibit
prompt
pronounce
prosecute
prospect
publication
publish
puddle
purchase
purpose
qualify
quality
quarrel
quote
rapid
receive

recession
recommend
recreation
refer
refrigerator
region
register
regulate
reindeer
reinforce
relative
release
relief
require
rescue
reservation
reserve
resident
responsible
restrict
salary
salmon
satisfy
scatter
scene
schedule
scholar
science
scientist
scissors
secretary
security
select

senator
senior
sense
separate
serious
severe
sheriff
sincerely
situation
slippery
social
society
soldier
solution
source
special
specific
speech
stationery
statute
strength
stretch
structure
students
substitute
superintendent
supervisor
surface
survive
suspend
system
technical
temperature
temporary
tenant
terrible
territory
testimony
threat
thrifty
through
tobacco
transportation
trespassing
unexpected
unite
usual
usually
vacant
variety
various
vehicles
veteran
vice-president
victim
view
vinyl
violate
violent
violet
voltage
welfare
whisper
yield
youth

# Selected Resources for Levels VII and VIII Mathematics

### Department Publications

The following Missouri Department of Elementary and Secondary publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*Activity Book for the Missouri Basic Essential Skills Test: Mathematics Objectives;* includes suggested activities for grades 7 and 8.

*Basic Math Skills for Missouri Students K-8.*

### Publications and Articles

*Active Mathematics Teaching.* Good, Grouws, Ebmeier and Longman. Research on Teaching Monograph Series. New York and London.

*An Agenda for Action: Recommendations for School Mathematics of the 1980's.* National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Applying Arithmetic—A Handbook of Applications of Arithmetic: Final Report.* Usiskin and Bell, National Science Foundation, Washington, D.C. 20402.

*Calculator Activities for the Classroom.* Immerzeel and Ockenga. Creative Publications, Inc., Palo Alto, California 94033.

*Developing Computational Estimation Materials for the Middle Grades: Report.* Reys, Trafton, Reys and Zawojewski, National Science Foundation, Washington, D.C. 20402.

*Developing Minds.* "Some Thoughts About Mathematics and Problem Solving," pp. 97-101. Association for Supervision and Curriculum Development, 225 N. Washington Street, Alexandria, Virginia 22314.

*Make It Simpler.* Meyer and Sallee. Addison Wesley, 1843 Hicks Road, Rolling Meadows, Illinois 60008.

*Mental Computation and Estimation.* Schoen (ed.), 1986 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston Virginia 22091.

*Mental Math for Middle Grades.* Hope, Reys, and Reys. Dale Seymour Publications, Palo Alto, California 94033.

*Problem Solving in School Mathematics.* Krulik (ed.), 1980 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Teaching of Statistics and Probability.* Schulte (ed.), 1981 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Statistics and Probability in Modern Life.* Newark, Rinehart Press, 901 North Elm, Hinsdale, Illinois 60521.

*Statistics By Example.* Mosteller, Frederick, et al. Addison Wesley, 1843 Hicks Road, Rolling Meadows, Illinois 60008.

*The Arithmetic Teacher.* "Research on Problem Solving: Implications for Elementary School Classroom." November, 1977, pp. 40-44. Suydam and Weaver.

*The Mathematical Sciences Curriculum K-12: What is Still Fundamental and What is Not.* Conference Board of Mathematical Sciences. National Science Foundation, Washington, D.C. 20402.

*Winning With Statistics.* Runyon, Addison Wesley. 1843 Hicks Road, Rolling Meadows, Illinois 60008.

### Video Tape Series

*It Figures* (1982)—A state-owned series of 28 twelve to fifteen minute video programs developed by the Agency for Instructional Technology dealing with mathematics skills for fourth grade but appropriate for other levels. Available at state cost from the Academic Support Center, University of Missouri-Columbia, 505 E. Stewart Road, Columbia, Missouri 65211.

*Math Works* (1985)—A series of 28 video tapes dealing with geometry, problem-solving, reasoning, etc. Aimed at fifth grade but appropriate for other levels. Available at state cost from the Academic Support Center, University of Missouri-Columbia, 505 E. Stewart Road, Columbia, Missouri 65211.

### Agencies and Organizations

Missouri Council of Teachers of Mathematics
Membership: K-12 Mathematics Teachers
Publication: MCTM Bulletin
Contact: Bob Buss (Parkway School District)

National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.
Membership: K-12 Mathematics Teachers
Publication: *The Arithmetic Teacher*
*The Mathematics Teacher*
NCTM Bulletin

# Selected Resources for Levels VII and VIII Science

## Department Publications

*Science Objectives for Missouri Students, K-6.* A guide to assist local school districts in the management of science instruction, kindergarten through grade six. (1984) Seventh and eighth grade teachers should be aware of the science objectives for elementary school students. Available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

## Publications and Articles

*Foundational Approaches in Science Teaching* (F.A.S.T.) This project has a set of course publications and a training program in the concepts and methods of physical, biological and earth sciences and their relationships to the environment for grades six through eight. Contact: Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201.

*ISIS: Individualized Instructional System Dissemination Project.* A validated Title IV-C interdisciplinary modular science program preparing non-science oriented students to understand practical, real-world, science related problems. Contact: Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201.

*Missouri Conservation Frontiers: A Conservation Action Program.* An activities and award program that promotes school and community hands-on activities both in and out of school. Missouri Department of Conservation, Education Unit, P.O. Box 180, Jefferson City, Missouri 65102.

*Science Fairs and Projects.* This publication answers your questions about science fairs and lists resources. (Write for catalog.) NSTA Special Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Supplement of Science Education Supplies.* A directory of over 300 firms that manufacture/distribute products for the science classroom. (Write for publications catalog.) NSTA Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Terrestrial Natural Communities in Missouri.* Department of Natural Resources, Public Affairs Office, P.O. Box 176, Jefferson City, Missouri 65102. (Write for listings of additional publications, teacher workshops and other services.)

## Video Tape Series

*Audiovisual and Literature Catalog.* The catalog contains many free loan films, tapes, computer programs and publications appropriate for K-12 science. Missouri Department of Health, P.O. Box 570, Jefferson City, Missouri 65102.

*Agency for Instructional Technology Catalog of Educational Materials 1986.* (AIT) The catalog contains numerous materials and programs for science and the other core competency areas. Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*Solutions Unlimited.* A state owned set of eight video and eight microcomputer problem solving strategies with teacher's manual for grades five through eight and other appropriate grade levels. May be purchased at state cost from: Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*WhatAbout.* A state owned AIT series of twelve 15-minute video programs directly addressing the processes in science and higher order thinking skills. The series may also be used in other subject matter areas for developing thinking skills. Available for reproduction cost. Academic Support Center, 505 E. Stewart Road, Columbia, Missouri 65211. (314) 882-3608. These programs may also be available through Instructional TV (ITV) telecast. Missouri schools have copying privileges for these programs if the school subscribes to ITV services.

## Agencies and Organizations

Jet Propulsion Laboratory, Education Outreach, 4800 Ash Grove Drive, Pasadena, California 91109. Mail stop 520-100. (818) 354-6916. Provides extensive earth and space science instructional materials and resources. Write for catalog.

Missouri Botanical Gardens, P.O. Box 299, St. Louis, Missouri 63166. Write for a listing of publications, programs, educational tours and speakers on science topics for grades 7 and 8.

Missouri Cooperative Extension Service. The extension service may have several science activities developed for other programs which would be useful in science classes. Check for the local office in your phone book.

Missouri Department of Conservation, Education Section, P.O. Box 180, Jefferson City, Missouri 65102. Provides extensive conservation, environmental and outdoor skills education publications, audiovisuals, inservice teacher training workshops, consultant assistance and other services for grades K-12. Contact your regional conservation educational consultant and/or outdoor skills specialist or write to the Education Section.

Missouri Department of Natural Resources, Office of Public Affairs, P.O. Box 176, Jefferson City, Missouri 65102. (314) 751-3443. Provides extensive instructional materials, teacher training workshops and other services for schools.

Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201. (314) 875-8782. The Facilitator Center has many validated programs in science, grades K-12. Write or call for the catalog entitled *Educational Programs that Work.* Annually, this catalog is sent to building principals.

National Science Teachers Association, 1742 Connecticut Avenue, NW, Washington, D.C. 20009. Write for publications list.

Phillips Petroleum Company, 16C-4 Phillips Building, Bartlesville, Oklahoma 74004. Provides several free science and math programs and a speakers bureau service.

Rural Electric Cooperatives. Many rural electric cooperatives provide materials useful in science programs. Check for the local office in your phone book if your area is served by a rural electric cooperative.

St. Louis Science Center, Education Director, 5050 Oakland Avenue, St. Louis, Missouri 63110. (314) 289-4409. The center provides several training programs and a variety of instructional materials.

# Selected Resources for Levels VII and VIII Social Studies

## Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*BEST Activity Book: Government/Economics Objectives.* 1977. Includes activities for grades 7 and 8.

*Guide to Social Studies Curriculum Development for Missouri Educators.* 1980. Goals, objectives and strategies to help educators improve their K-12 social studies programs.

*Missouri in the World.* 1986. Strategies for teaching Missouri students about their state's relationship with other cultures.

*The Social Studies Basic Skills Connection.* 1982. Practical strategies and activities for teaching basic skills in conjunction with the social studies content.

## Publications and Articles

### General

*Social Education.* The journal for teachers of the National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016.

*The Social Studies.* A bimonthly magazine produced by Heldref Publications, 4000 Albemarle Street, NW, Washington, D.C. 20016.

### Geography

*Guidelines for Geographic Education: Elementary and Secondary Schools.* Available from National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

*Map and Globe Skills: K-8 Teaching Guide.* Winston, Barbara J. 1984. Available from National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

*Teaching Map and Globe Skills: An Inductive Approach.* Anderson, Jeremy. National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

### History

*The Magazine of History.* A quarterly produced for secondary U.S. history teachers by the Organization of American Historians, 112 North Bryan Street, Bloomington, Indiana 47401.

*The Study and Teaching of History.* 1980. Commager, Henry Steele and Muessig, Raymond H. Columbus, Ohio. Merrill.

*Understanding History: A Primer of Historical Method.* 1966. Gottschalk, Louis. New York. Knopf.

### Government/Civics

*Rights and Responsibilities of Citizenship in a Free Society. A Law Oriented Curriculum Guide, K-12.* Produced by The Missouri Bar, P.O. Box 119, Jefferson City, Missouri 65102.

Organizations like the Social Science Education Consortium and the American Bar Association, listed below under Agencies and Organizations, have produced many useful materials for the bicentennial of the U.S. Constitution, which are relevant to "government/civics."

### Economics

*Curriculum Guide to Missouri Core Competencies in Economics.* Produced by and made available from the Center for Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211.

*A Framework for Teachers: The Basic Economics Concepts.* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: Junior High Level (Grades 7-9).* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: U.S. History.* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 20016.

*Zooconomy.* An economics unit for elementary grades. Produced by and made available from the Center for Economic Education, University of Missouri-St. Louis, 8001 Natural Bridge, St. Louis, Missouri 63121.

### Other Social Studies Competencies

For background information related to Competency S, teachers are advised to review discussions of learning theory and role theory in basic psychology and social psychology books. For information on belief systems, institutions and social structures of other cultures there are many resources, such as quality literature available in libraries, books sometimes cited in teachers' textbook guides and activities references cited in *Social Education*, in *News and Notes on the Social Studies* and in Social Science Education Consortium references. Teachers are also advised to write the Community Education Office, Center for International Studies, University of Missouri-St. Louis, 366 SSB Building, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499, (314) 553-5801, for a copy of *A Guide For Educators to the International Resource Collection.* This guide lists materials that may be borrowed by Metropolitan St.

Louis educators and can serve as a good list of materials which districts should consider purchasing.

### Video Tape Series

*Give and Take.* A series of twelve programs and a teacher's guide for grades 8-10 to help students understand economic concepts and make personal decisions. Available from your nearest Center for Economic Education or the Missouri Council on Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211. (314) 882-3803.

### Agencies and Organizations

#### General

Missouri Council for the Social Studies and MSTA Department of Social Studies.

Both groups sponsor state meetings twice a year and produce newsletters. Since neither group has a permanent address, contact the office of the Curriculum Consultant for Social Studies of the Missouri Department of Elementary and Secondary Education.

National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016. (202) 966-7840.

Produces the journal *Social Education*, which includes practical classroom ideas for all levels; books and booklets for social studies teachers; how-to-do-it pamphlets; and sponsors an annual social studies convention.

Social Science Education Consortium (SSEC), 855 Broadway, Boulder, Colorado 80302.

The SSEC has produced many excellent resource books for teachers. Write for a catalog.

Social Studies Development Center, Indiana University, 2805 East 10th Street, Bloomington, Indiana 47405. (812) 335-3584.

The center houses the ERIC Clearinghouse for Social Studies. It also produces two newsletters, free for school buildings: *News and Notes on the Social Sciences* and *Keeping Up: News Bulletin of the Clearinghouse for Social Studies/Social Science Education.*

#### Geography

National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

Holds an annual meeting and produces a journal. Recently published *Guidelines for Geographic Education for Elementary and Secondary Schools.* (Available at low cost.)

National Geographic Society, Educational Media Division, Washington, D.C. 20036. (202) 828-5699.

Produces *National Geographic* (for adults) and *World* (for children) magazines and has recently begun producing a free newsletter for educators, *Geography Education Update.*

#### History

Organizations supportive of history include, among others, museums and historical societies. The particular organizations listed below offer materials that may be borrowed and used for history instruction and/or offer programs of interest to teachers:

Jefferson National Expansion Memorial
Education Office
11 North Fourth Street
St. Louis, Missouri 63102 (314) 425-4472

St. Louis Art Museum
Department of Education
Forest Park
St. Louis, Missouri 63110 (314) 726-2316

Missouri Historical Society
Forest Park
St. Louis, Missouri 63110 (314) 721-0067

Nelson Atkins Gallery of Art
4525 Oak Street
Kansas City, Missouri 64111 (816) 931-8963

#### Government/Civics

The Missouri Bar Advisory Committee on Citizenship Education (ACCE), P.O. Box 119, Jefferson City, Missouri 65102. (314) 635-4128.

The Missouri Bar ACCE, a joint program of The Missouri Bar, the Missouri Department of Elementary and Secondary Education and the University of Missouri-Columbia, was established to help teachers understand and teach about the legal system. The committee produced a curriculum guide and other resources; operates an A-V lending library; assists with workshops and technical assistance; helps classroom teachers obtain attorneys as resource people; and has a free newsletter.

The American Bar Association Special Committee on Youth Education for Citizenship, 750 North Lake Shore Drive, Chicago, Illinois 60611. (312) 988-6056.

Publishes the magazine *Update on Law-Related Education* (LRE) and two newsletters entitled *LRE Project Exchange* and *LRE Report: What's Happening in Law-Related Education.* These publications provide information about: the legal system, teaching activities, new publications, conferences and courses.

Resource Center for Law-Related Education, The Bar Association of Metropolitan St. Louis, One Mercantile Center, Suite 3600, St. Louis, Missouri 63101. (314) 421-4134.

Conducts workshops, provides technical assistance and offers programs in The Metropolitan St. Louis area.

## Economics

The Missouri Council on Economic Education (MCEE), 228 Professional Building, 909 University, Columbia, Missouri 65211. (314) 882-3803.

MCEE coordinates a network of Centers for Economic Education to help elementary and secondary teachers understand and teach important ideas from economics. Contact the nearest center in your area for available materials and services: University of Missouri-Columbia, University of Missouri-St. Louis, Rockhurst College, Southeast Missouri State University, Southwest Missouri State University, Drury College, Northwest Missouri State University, and Missouri Western State College. The centers are equipped to help local districts and teachers in their efforts to teach economics core competencies.

The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016. (212) 685-5499.

Produces many materials for teachers of all levels. Write for free catalog.

# LEVELS
# IX-X

# Language Arts/Reading/English

## LEVEL IX

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.

(Learner outcomes at this level should reflect maintenance of skills mastered at Levels II through VII.)

B. Determine the meaning of unknown words in context.

*The learner will:

● 1. Use context and/or dictionary to determine meanings of vocabulary in content areas and literature.
● 2. Predict and confirm meanings of new words.
● 3. Explain and use prefixes, suffixes and root words as clues to word meanings.
○ 4. Cite examples of cultural or ethnic dialect and explain how these enrich the passage.
5. Add to basic sight vocabulary from a variety of sources.

C. Demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

● 1. State the theme of a short story or novel, taking into account resolution of conflict, mood and setting.
● 2. Identify methods of characterization including physical description of character, what the character says, what other characters say about him/her and the character's thoughts and actions.
● 3. Detect plotting structures (flashback, foreshadowing, exposition, climax and resolution).
● 4. Cite examples of and explain irony, sarcasm, puns and metaphorical language.
○ 5. Differentiate among prose (fiction-nonfiction), poetic and dramatic forms.
● 6. Identify the author's thesis, bias and purpose; explain how these influence the selection.
● 7. Justify the inclusion of characters, scenes and details in a literary work; tell how these relate to the author's purpose.
● 8. Tell how a work of literature relates to its cultural and social context.
● 9. Identify and explain cause-effect relationships.
●10. Identify main idea and supporting details.
●11. Make inferences and generalizations from specific details.
12. Evaluate the effectiveness of examples and illustrations in contributing to meaning.

D. Employ appropriate strategies for locating and using information.

*The learner will:

● 1. Select and use appropriate reference sources for a given task: almanac, atlas, subject index to literature, *Readers' Guide*, specialized dictionaries, directories and people.
● 2. Use graphic sources for information: tables, charts, schedules, graphs, diagrams, time lines and maps.
● 3. Use various kinds of print and nonprint sources for specialized information: catalogs, videotapes, films, recordings, computer software, interviews, newspapers, trade books and textbooks.
● 4. Organize information for personal use (notes, outlines, etc.).
○ 5. Adjust reading strategy to purpose and type of reading.
○ 6. Summarize information presented in oral and written form.
○ 7. Apply effective test-taking strategies.
● 8. Compare points of view from two or more sources and assess validity (copyright date, author's qualifications, etc.).
● 9. Follow written multistep directions.

E. Demonstrate the value of reading for personal development.

*The learner will:

● 1. Interpret various kinds of business correspondence.
● 2. Interpret and use occupational and career information: job listings, application forms, salary schedules and benefits, paycheck stubs.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

3. Recognize and appreciate the aesthetic and humanizing aspects of literature.
4. Select and share an increasing variety of materials (science fiction, fantasy, drama, lyric and narrative poetry, ethnic literature and works with foreign settings).

## Writing

F. Use the tools or means for writing.

The learner will:

○ 1. Maintain legibility in manuscript and cursive writing.
2. Use a typewriter or word processor for composing and editing.
3. Use the library as a source of primary and secondary information.

G. Use the steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:

● 1. Use various prewriting strategies: research, discussion, brainstorming, clustering and visual media.
● 2. Write in a variety of modes of discourse (personal, expository, persuasive, narrative, descriptive) for a variety of audiences and purposes.
○ 3. Construct paragraphs using appropriate paragraph patterns: topic sentences, illustrations, facts and figures, quotes, examples, comparisons and contrasts or definition.
● 4. Revise sentences within paragraphs using the techniques of revision: add, delete, substitute, combine and rearrange.
○ 5. Share the paper with peer group and/or teacher for constructive suggestions; revise and present the paper for second content evaluation.
● 6. Edit writing for correct spelling, standard usage and complete sentences.
● 7. Edit capitalization guided by convention.
● 8. Edit punctuation: quote within a quote, apostrophes, dashes, colons, semicolons, ellipses and parentheses.
● 9. Expand vocabulary for writing; use vivid verbs and specific nouns.
●10. Edit writing for subject-verb agreement, pronoun referents, sentence fragments, consistency of tense and point of view, apposition and smooth transitions.
○11. Proofread and publish written work to share with special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:

○ 1. Demonstrate attention and courtesy by maintaining eye contact with the speaker and asking questions for clarification and/or additional information.
○ 2. Analyze qualities of a speaker's language and delivery: imagery, word choice, transitional devices and purposeful repetition.
○ 3. Identify a speaker's purpose and method of appeal to an audience (humor, wit, emotion, propaganda techniques, pathos, etc.).
○ 4. Receive and evaluate material critically by making judgments about validity, bias, speaker's qualifications, fact or opinion, fantasy or realism, etc.
○ 5. Adjust listening strategies according to purpose, distractions, nature of the material and organizational cues of speaker.
○ 6. Compare and evaluate oral information using multiple sources.
○ 7. Evaluate and use mass media as sources of information.

I. Use conventions of oral language.

The learner will:

○ 1. Identify and remedy speech qualities (diction, rate, volume, pitch) that need self-improvement.
2. Identify differences in the speaker's opinions and those of listeners and adjust responses accordingly.
○ 3. Perform prose, poetry or drama effectively for various audiences.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:

○ 1. Give or follow oral directions requiring periods of time between steps.
○ 2. Analyze own speaking techniques for overstatements, ambiguity and irrelevant material.
3. Present an impromptu talk on a familiar subject.
○ 4. Prepare and present a speech: include introduction; use supporting details and conclusions; stay within time limits; present information relevant to the topic; use transitions between ideas effectively.
5. Take a position based on evidence and defend it using logical argument.

K. Use and respond to verbal and nonverbal communication.

The learner will:

○ 1. Identify points to be questioned in a formal

presentation or in conversation and discussion.
2. Use content and nonverbal cues in evaluating effectiveness of a presentation.
○ 3. Defend or modify a point of view when confronted with ideas of others.
○ 4. Demonstrate effective interview skills.
5. Conduct an opinion poll.

# Language Arts/Reading/English

## LEVEL X

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

## Reading

A. Use appropriate letter-sound, structural and contextual strategies to identify unknown words.
(Learner outcomes at this level should reflect maintenance of skills mastered at Levels II through VII.)

B. Determine the meaning of unknown words in context.

*The learner will:

● 1. Use context and/or dictionary to determine meanings of vocabulary in content areas and literature.
● 2. Predict and confirm meanings of new words.
● 3. Explain and use meanings of Greek and Latin prefixes and suffixes as clues to word meaning.
4. Add to basic sight vocabulary from a variety of sources.

C. Demonstrate an understanding of narrative and expository text by retelling, answering or formulating questions and thinking critically.

*The learner will:

● 1. State the theme of short story or novel, taking into account resolution of conflict, mood and setting.
● 2. Identify the author's thesis, bias and purpose; explain how these influence the selection.
○ 3. Compare chronology of events in works of literature with other happenings of the time.
● 4. Identify and explain cause-effect relationships.
● 5. Identify and describe attributes of characters in a short story, novel or drama.
● 6. Identify the main idea and supporting details.
● 7. Detect plotting structures (flashback, foreshadowing, etc.).
● 8. Use text to predict future events and outcomes.
● 9. Identify underlying assumptions of a passage by drawing valid conclusions.
●10. Differentiate among prose, poetic and dramatic forms.
●11. Cite examples of and explain satire, irony, puns and figures of speech.
○12. Compare and contrast styles of writing used in various reading selections.
●13. Evaluate the effectiveness of examples and illustrations in contributing to meaning.
●14. Make inferences, predict outcomes, form generalizations and conclusions and support with facts.

D. Employ appropriate strategies for locating and using information.

*The learner will:

● 1. Select and use appropriate reference sources for a given task: almanac, atlas, subject index to literature, *Readers' Guide*, specialized dictionaries and directories.
● 2. Use graphic sources for information: tables, charts, schedules, graphs, diagrams, time lines and maps.
● 3. Use various kinds of print and nonprint sources for specialized information: catalogs, videotapes, films, recordings, computer software, interviews, newspapers, textbooks and trade books.
● 4. Organize information for personal use (notes, outlines, etc.).
○ 5. Adjust reading strategy to purpose and type of reading.
○ 6. Summarize information presented in oral and written form.
○ 7. Apply effective test-taking strategies.
● 8. Check sources by comparing information from more than one source and assessing validity (copyright date, author's qualifications, etc.).
● 9. Follow written multistep directions.

E. Demonstrate the value of reading for personal development.

*The learner will:

● 1. Interpret various kinds of business correspondence.
● 2. Interpret and use occupational and career information: job listings, application forms, salary schedules and benefits, paycheck stubs.
3. Demonstrate in conversations and discussions a knowledge of characters and events in literature.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

○ 4. Choose to read a library book during free time.
○ 5. Participate in a discussion of books, current magazines and newspaper articles.
6. Explore career opportunities from print and nonprint sources.

## Writing

F. Use the tools or means for writing.

The learner will:
○ 1. Maintain legibility in manuscript or cursive writing.
2. Use a typewriter or word processor for composing and editing.
3. Use the library as a source of primary and secondary information.

G. Use the steps of the writing process: prewriting, composing, revising, proofing/editing, sharing the product.

The learner will:
○ 1. Construct and execute workable plans for producing various types of writing: personal, expository, narrative and descriptive.
● 2. Construct paragraphs using appropriate paragraph patterns: topic sentences, illustrations, facts and figures, quotes, examples, comparisons and contrasts or definitions.
● 3. Revise sentences within paragraphs using the techniques of revision: add, delete, substitute, combine and rearrange.
○ 4. Share the paper with the peer group and/or teacher for constructive suggestions; rewrite and present the paper for conceptual content evaluation.
● 5. Edit writing for correct spelling, complete sentences, variety of sentence structure and usage.
● 6. Edit capitalization guided by convention: lower case or capital letters consistent throughout writing (TV-tv, A.M.-a.m.); capitalization as rhetorical device for layout or effect; lower case for types of kinds (zinnia, king cobra); lower case for terms that have become generic (coke, kleenex).
● 7. Edit punctuation: title within a title; titles with subtitles; dashes, colons, semicolons, ellipses, parentheses; quotations from poetry; incorporation of long and short quotes.
8. Expand writing vocabulary.
● 9. Edit writing for apposition, parallelism and smooth transitions.
○10. Produce attractive, legible written work to share with special audiences.

## Listening/Speaking

H. Listen attentively and critically.

The learner will:
○ 1. Demonstrate attention and courtesy by maintaining eye contact with the speaker and asking questions for clarification and/or additional information.
○ 2. Analyze qualities of a speaker's language and delivery: imagery, word choice, transitional devices and purposeful repetition.
○ 3. Identify a speaker's purpose and method of appeal to an audience (humor, wit, emotion, propaganda techniques, pathos, etc.).
○ 4. Receive and evaluate material critically by making judgments about validity, bias, speaker's qualifications, fact or opinion, fantasy or realism, etc.
○ 5. Adjust listening strategies according to purpose, distractions, nature of the material and organizational cues of speaker.
○ 6. Compare and evaluate oral information using multiple sources.
○ 7. Evaluate and use mass media as sources of information.

I. Use conventions of oral language.

The learner will:
○ 1. Identify and remedy speech qualities (diction, rate, volume, pitch) that need self-improvement.
2. Identify differences in the speaker's opinions and those of listeners and adjust responses accordingly.
○ 3. Perform prose, poetry or drama effectively for various audiences.

J. Organize thoughts, ideas and materials for listening and speaking.

The learner will:
○ 1. Give or follow oral directions requiring periods of time between steps.
○ 2. Analyze own speaking techniques for overstatements, ambiguity and irrelevant material.
3. Present an impromptu talk on a familiar subject.
○ 4. Prepare and present a speech: include introduction; use supporting details and conclusions; stay within time limits; present information relevant to the topic; use transitions between ideas effectively.
5. Take a position based on evidence and defend it using logical argument.

K. Use and respond to verbal and nonverbal communication.

The learner will:

- ○ 1. Identify points to be questioned in a formal presentation or in conversation and discussion.
- 2. Use content and nonverbal cues in evaluating effectiveness of a presentation.
- ○ 3. Defend or modify a point of view when confronted with ideas of others.
- ○ 4. Demonstrate effective interview skills.
- 5. Conduct an opinion poll.

# Mathematics

## LEVEL IX

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

1. Use associative, commutative and distributive properties to simplify computational problems and algebraic expressions.
● 2. State the additive and multiplicative inverses of given rational numbers.

B. Apply the basic operations in computational situations.

● 1. Convert rational numbers to scientific notation and convert scientific notation to rational numbers.
2. Compute using scientific notation.
● 3. Compute the sum, difference, product or quotient of rational numbers.
● 4. Evaluate algebraic expressions given values for the variables.
● 5. Solve one-step and two-step linear equations with integral coefficients.
6. Solve problems requiring the manipulation of formulas. Example: Solve $P = 2L + 2W$ for L, given values for P and W.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Determine whether common fractions, decimals and percents are near frequently-used fractions such as halves, thirds and fourths.
○ 2. Estimate the square root of a number to the nearest whole number.
● 3. Solve problems requiring estimation in consumer, geometric and physical situations.
○ 4. Judge reasonableness of solutions to problems requiring the use of percent, fractions and/or decimals.

D. Apply the concept of measurement to the physical world.

*The learner will:

● 1. Find the volume of a cylinder and a rectangular prism when formulas are supplied.
● 2. Compute the area and perimeter of irregularly shaped figures which can be broken into regions for which known formulas can be applied.
3. Solve problems requiring the application of the Pythagorean theorem.

E. Recognize geometric relationships.

*The learner will:

1. Recognize properties of angles related to parallel and perpendicular lines.
● 2. Calculate the complement and/or supplement of a given angle.
3. Calculate the third angle of a triangle given the measures of the other two.
● 4. Determine if a given point is on the graph of a given equation.
5. Plot the graph of a linear equation in the Cartesian plane.
● 6. Determine the slope of a line from its graph.
○ 7. Construct a circle of given radius and copy an angle, using a compass and straightedge.
8. Investigate the applications of the properties of similar geometric figures.

F. Use statistical techniques and interpret statistical information.

*The learner will:

● 1. Compute and interpret the mean, median, mode and range of a set of data.
● 2. State the probability of an event occurring based on given statistical data and on student-generated statistical data.
3. Organize and interpret statistical data.
4. Investigate inferences drawn from statistical data and judge reliability.

G. Integrate problem-solving strategies.

*The learner will:

● 1. Translate word phrases and sentences into algebraic expressions and equations.
2. Investigate possible conclusions that can be drawn from given premises and definitions.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "o."

- 3. Solve, if possible, problems that involve unnecessary data, missing data and/or data that need conversion.

H. Solve problems in consumer situations.

The learner will:

- 1. Solve problems involving surface area in consumer situations, including unit conversion.
- 2. Solve problems using ratio and proportion (percent) in consumer situations.

3. Investigate problems involving personal finance.

# Mathematics

## LEVEL X

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

A. Demonstrate an understanding of numbers.

*The learner will:

● 1. Use associative, commutative and distributive properties to simplify computational problems and algebraic expressions.

B. Apply the basic operations in computational situations.

● 1. Compute using scientific notation.
● 2. Evaluate algebraic expressions given values for the variables.
● 3. Solve two-step linear equations involving rational numbers.
● 4. Solve problems requiring the manipulation of formulas. Example: Solve $P = 2L + 2W$ for L, given values for P and W.

C. Estimate results and judge reasonableness of solutions.

*The learner will:

○ 1. Determine whether common fractions, decimals and ratios are near frequently-used fractions such as halves, thirds and fourths.
2. Estimate the square root of a number to the nearest whole number.
3. Estimate the value of a numerical expression using scientific notation.
○ 4. Estimate solutions for various computational problems.
● 5. Judge reasonableness of solutions in consumer, geometric and physical situations.

D. Apply the concept of measurement to the physical world.

*The learner will:

● 1. Find the volume of a cylinder and a rectangular prism when formulas are not supplied.
● 2. Compute the area and perimeter of irregularly shaped figures which can be broken into regions for which known formulas can be applied.
● 3. Solve problems requiring the application of the Pythagorean theorem.

E. Recognize geometric relationships.

*The learner will:

● 1. Recognize properties of angles related to parallel and perpendicular lines.
● 2. Calculate the third angle of a triangle given the measures of the other two.
● 3. Plot the graph of a linear equation in the Cartesian plane.
● 4. Determine the slope of a line from its graph.
5. Bisect a line segment and construct a perpendicular to a line segment, using a compass and straightedge.
● 6. Set up and solve proportions related to similar geometric figures.

F. Use statistical techniques and interpret statistical information.

*The learner will:

● 1. Compute the mean, median, mode and range of a set of data.
● 2. State the probability of an event occurring based on given statistical data and on student-generated statistical data.
● 3. Given a narrative describing an inference drawn from statistical data, identify limitations to the inference.

G. Integrate problem-solving strategies.

*The learner will:

● 1. State logical conclusions from given premises and definitions.
● 2. Given a narrative describing a conclusion drawn through logical inference determine the strength or limitation of the conclusion.
● 3. Translate word phrases and sentences into algebraic expressions and equations.

H. Solve problems in consumer situations.

*The learner will:

1. Solve banking problems involving compound interest.
● 2. Solve banking problems related to maintaining a checking account.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

● 3. Compute gross pay using hourly, daily, monthly, commission, piecework and/or overtime rates.

● 4. Compute the Social Security deduction, determine state and federal taxes from appropriate tables and calculate net pay, given gross pay.

5. Prepare a personal budget given appropriate information.

## Calculator Technology

The appropriate and efficient use of the calculator should be encouraged at all levels. Some educators have expressed concern that regular use of calculators will give students the mistaken impression that they will not have to learn the basic number facts and operations. Proper use of the calculator requires a knowledge of basic facts and strengthens number skills. Students must also develop skills in estimation and be able to recognize unreasonable answers. Making judgments about the results of calculation is more important to a student's mathematical power than performing numerous separate computations.

Calculators cannot substitute for good teaching nor for use of concrete materials or manipulatives in the classroom. Perhaps most important, the use of calculators must not replace the development of the student's understanding of the meaning of arithmetic operations and the common algorithms used to perform those computations. With full and appropriate use of the calculator, all students, not just the most capable, can have the time and instructional support to learn to think through problems, knowing that lengthy computations will not be a barrier to success.

In the upper elementary grades, students should be computing with calculators on a regular basis. At the same time, they should learn that for some simple computations, use of the calculator is either cumbersome or, worse, can obscure their understanding of the calculation being performed. As they gain experience, students should be expected to judge whether use of the calculator will be effective and efficient. By the beginning of the seventh grade, students should have calculators available when appropriate--in class, on homework assignments and on tests. By the time students move into secondary schools, the use of calculators should be routine. Some examples of the advantages of calculators follow:

> Calculator use decreases the time students must spend on computation, increasing the time they can spend on the important aspects of problem-solving: formulating questions, devising and evaluating strategies and verifying and interpreting solutions.
>
> Calculator use enables students to deal successfully with large, unwieldy numbers and allows slower students to complete assignments within time limits.
>
> In secondary grades calculator use allows students to explore solutions to algebraic equations in a way that is impractical with paper-and-pencil computation.

# Science

## LEVEL IX

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe the properties of objects, organisms and events by using the five senses and appropriate instruments.

*The learner will:

1. Observe the effects of manmade pollutants on the atmosphere by direct experience, by media experience or a combination of both.
2. Observe the structural similarities and differences between two different higher-level organisms (e.g., frog and human).
3. Observe the basic differences and similarities of solutions, suspensions and colloids.

B. Classify objects, organisms and events based on similar and/or different properties.

*The learner will:

● 1. Compare and contrast a kilowatt and a kilowatt-hour.
● 2. Identify the four basic types of chemical reactions: composition ($A + B \longrightarrow AB$), decomposition ($AB \rightarrow A + B$), single replacement ($A + BX \rightarrow AX + B$) and double replacement ($AX + BY \longrightarrow AY + BX$).
○ 3. Compare and contrast the chromosome numbers in meiotic and mitotic cell division, respectively.
○ 4. Differentiate between nuclear fusion and nuclear fission reactions.
● 5. Differentiate between a covalent bond and an ionic bond.
● 6. Classify the type of lenses used to produce particular images depicted in ray diagrams.
7. Compare the three isotopes of hydrogen.

C. Measure matter energy, space, time and events using the appropriate devices and skills.

*The learner will:

○ 1. Measure the size changes occurring in young plants and animals over time and plot the results.
● 2. Using the formula $D = \frac{m}{V}$, calculate density, mass and volume.
● 3. Using the formula $v = f \times \lambda$ (lambda), calculate velocity, frequency or wavelength where $v$ = velocity, $f$ = frequency and $\lambda$ (lambda) = wavelength.

D. Communicate observations and/or findings by written and oral descriptions, drawings, data recordings and graphs.

*The learner will:

● 1. Describe the relationships among technologies which improve our lives and the environmental problems that could result.
○ 2. Describe heat as a measure of the total kinetic energy and temperature as a measure of the average kinetic energy in a system.
● 3. Describe the relationship between volume and pressure.
● 4. Describe the relationship between temperature and volume.
5. Describe the causes and effects of earthquakes.
● 6. Distinguish the difference(s) between mass and weight.
○ 7. Describe how astronomers use a spectroscope to determine a star's temperature and composition.
○ 8. Draw global wind patterns, name the factors affecting climate and describe a region's climate when given its location.
● 9. Communicate ways in which plant decay and animal activity make fertile topsoil (holding water, aerating soil, enriching soil, rock decomposition, soil nutrients, etc.).
10. Identify the basic, acidic and neutral ranges of the pH scale.

E. Draw inferences, conclusions, deductions or logical consequences from past or present observations and/or findings.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

The learner will:

○ 1. Infer how energy can be transformed from one form to another.

● 2. Given descriptions of several processes, select the ones that demonstrate the Law of Conservation of Energy.

○ 3. Infer the products of the typical combustion reaction when reactants are given.

● 4. Explain the application of Archimedes' Principle to the ability of an object to sink or float in a given medium.

● 5. When given a vertical and horizontal force on an object, determine the direction of the resultant force.

○ 6. Infer how motion is affected by frictional forces.

F. Predict future events or conditions based upon past observations or inferences.

The learner will:

1. Predict the possibility of the desalinization process as a means of obtaining fresh water.

○ 2. Predict possible local environmental consequences based on factors such as increased population, amount of available freshwater and amount and types of pollution.

G. Identify and use the three types of variables of an investigation: (a) the ones held constant, (b) the one which is deliberately manipulated, and (c) the one recorded as the result of the investigation.

The learner will:

● 1. Identify the dependent variable and the independent variables in an experiment.

● 2. Identify the elements from the symbols given in a formula of a common compound.

H. Hypothesize by identifying the relationship between a cause and effect; formulate an "if-then" statement and generalizations to be tested.

The learner will:

● 1. Hypothesize what will happen to the flora and fauna downstream from a nuclear power plant which releases its cooling water into the stream.

I. Design and conduct experiments with minimal guidance.

The learner will:

○ 1. Design and construct an experiment that will test a stated hypothesis.

J. Solve problems by using logical processes to: (a) identify the problem; (b) generate alternative choices; (c) select the best alternative in light of social, economic, political and ecological impact; and (d) test and evaluate the choice.

The learner will:

● 1. Study the causes of soil erosion in an area, analyze the problem(s) and choose the action to be taken to prevent further erosion.

# Science

## LEVEL X

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels. Teachers are strongly encouraged to involve students in active science learning by teaching scientific processes in conjunction with and as a part of scientific content. The student should be afforded every possible opportunity to apply the processes as he or she learns the content.*

A. Observe the properties of objects, organisms and events by using the five senses and appropriate instruments.

*The learner will:

● 1. Observe the differences between mitotic and meiotic divisions.
2. Recognize the changes in communities which occur during ecological succession.
3. Observe an ecological community to increase his/her understanding of food webs.
○ 4. Observe and describe transverse and longitudinal waves in a string or spring.
5. Identify four significant cell organelles (cell membrane, ribosome, nucleus, mitochondria).
○ 6. Observe samples of various soil types and indicate differences and similarities using the five senses.

B. Classify objects, organisms and events based on similar and/or different properties.

*The learner will:

● 1. Classify regions of the earth based on their physical and biological characteristics.
● 2. Classify species associations into the types of symbiosis—commensalism, mutualism and parasitism.
○ 3. Classify the hazards and benefits of controlled substances such as stimulants, depressants, hallucinogens and narcotics.
● 4. Classify precipitation into its various forms and indicate the origin process for each form.
5. Classify clouds into basic cloud types.
6. Classify common fossils found in Missouri.
7. Classify and compare common stars based on size, temperature and age.
8. Compare and contrast properties of sea and fresh water.
○ 9. Classify and compare electromagnetic radiations.
●10. Compare and contrast nuclear fusion and nuclear fission reactions.
11. Compare and contrast common organic and inorganic compounds.
12. Explain and contrast the different types of chemical bonding.
○13. Compare and contrast basic differences and similarities of solutions, suspensions and colloids.

C. Measure matter, energy, space, time and events using the appropriate devices and skills.

*The learner will:

1. Approximate the field diameter of an object or organism using a microscope.
○ 2. Use available meteorological instruments to measure weather variables.
3. Construct a time line of earth history that identifies major physical and biological events.
● 4. Calculate the kilowatt hours of electricity used by an appliance.
● 5. Record measurements using appropriate scientific notation.
○ 6. Measure and chart the change in the surface-to-volume ratio of a cube as its size increases.
● 7. Measure and plot the growth rate of a biological organism.

D. Communicate observations and/or findings by written and oral descriptions, drawings, data recordings and graphs.

*The learner will:

1. Describe the distinguishing characteristics of organisms in each of the five kingdoms of living things.
2. Associate the roles of mutation and natural selection with species changes over time.
● 3. Diagram and describe basic elemental cycles (C, N, Ca, P) and relate them to food webs.
4. Describe general ways in which human activities affect environmental quality.
○ 5. Develop an optimum diet for proper human growth and development from a list of various

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

foods that indicates both calorie and nutrient content.
● 6. Identify, diagram and describe the associated vertical and horizontal wind movements in different atmospheric pressure systems.
7. Describe thermal and compositional characteristics of the troposphere, stratosphere, mesosphere and thermosphere.
● 8. Diagram the four types of weather fronts and describe typical weather associated with each.
○ 9. Describe the formation of geological features such as moraines, caves, Karst topography, folded mountains, fault block mountains and river valleys; describe the implications for land use of each feature.
10. Trace a molecule of water from the ocean to precipitation forms (rain, snow, sleet, hail, drizzle).
○11. Use a model to demonstrate the motion of the earth, sun and moon—independently and as a system.
12. Describe the relationships between present energy resources and future energy alternatives.
○13. Describe and compare sound and light waves and transmission of each.
●14. Explain in terms of kinetic theory several examples of the different states and changes of matter.
●15. Identify the relationship among volume, pressure and temperature of a gas.
16. Explain the relative motion of the molecules and the relative distances between the molecules in the solid, liquid and gaseous states of matter at a specified temperature. (Phase-change temperatures should be excluded.)

E. Draw inferences, conclusions, deductions or logical consequences from past or present observations and/or findings.

The learner will:
○ 1. Cite evidence to support the concept of continental drift.
2. Infer specific conditions on planets that make existence of life on them unlikely.
○ 3. Infer the relationships between mass and energy using the proper units of measure for each.
● 4. Infer the original form of types of energy (chemical, mechanical, heat or light) using descriptions of energy transformations.
5. When given the effect of temperature on water form and density, deduce the impact of such temperature changes on aquatic habitats.
○ 6. Infer how land and water bodies cool and heat at different rates.
7. Measure heating of an automobile interior and infer its parallel to a commercial greenhouse.

F. Predict future events or conditions based upon past observations or inferences.

The learner will:
○ 1. Predict the phenotypic and genotypic ratios of the offspring of a dihybrid cross using a Punnett square.
● 2. Predict the direction and rate of water flow in two different concentrations of a solute separated by a semipermeable membrane.
3. Predict the effects on the hydrologic cycle should evaporation cease.
○ 4. Predict the effects of a major earthquake in your area of Missouri.
● 5. Predict future energy needs from data given on past U.S. energy consumption.
6. Predict the reactants and products in a typical combustion reaction.
○ 7. Predict which of several stationary objects of known mass and size will be accelerated the most and which direction they will take when a force is applied from a known direction.

G. Identify and use the three types of variables of an investigation: (a) the ones held constant, (b) the one which is deliberately manipulated and (c) the one which is recorded as the result of the investigation.

The learner will:
● 1. Design/identify an experiment which tests the effects of systematically altering variables.
2. Identify the variables in an investigation of the factors affecting the amount and rate of evaporation.
3. Hypothesize the results of one or more systematic alterations of the variables in Newton's Laws of Motion.
4. Identify dependent and independent variables in an experiment involving toxicity.

H. Hypothesize by identifying the relationship between a cause and effect; formulate an "if-then" statement and generalizations to be tested.

The learner will:
○ 1. Hypothesize how genetic resistance develops from continued exposure to pesticides or antibiotics.
● 2. Hypothesize the potential changes in vegetation in a selected location as a function of change in climatic conditions.
3. Formulate a hypothesis on why some organisms are commonly fossilized and others are not.

I. Design and conduct experiments with minimal guidance.

The learner will:

- ○ 1. Devise an experiment that will test a stated hypothesis.

J. Solve problems by using logical processes to: (a) identify the problem; (b) generate alternative choices; (c) select the best alternative in light of social, economic, political and ecological impact; and (d) test and evaluate the choice.

The learner will:

- ● 1. Evaluate the conditions presented in case situations involving the disposal, management and storage of toxic chemicals and nuclear wastes.
- ○ 2. Identify the pros and cons of an environmental issue such as damming a local river for recreational, conservation or industrial purposes, and defend a position.
- ○ 3. Determine personal body fitness (body composition, blood pressure, cardiorespiratory fitness, stress, musculoskeletal fitness) and compare it to a recommended health standard.
- ● 4. Relate the importance of earth's ocean environment to the future of mankind and the quality of life.

# Social Studies/Civics

## LEVEL IX

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

## Geography

A. Demonstrate knowledge of place geography.

*The learner will:

- ● 1. Locate the following places in the United States on maps, and describe how their locations relate to each other:
    - The 50 states
    - Rocky Mountains, Appalachian Mountains, Sierra Nevada Mountains, Cascade Range, Ozark Highlands
    - The Great Plains
    - Columbia, Colorado, Rio Grande, Missouri, Mississippi, Ohio and St. Lawrence Rivers
    - Pacific, Mountain, Central and Eastern Time Zones
    - Great Lakes
    - Washington, D.C., New York City, Boston, Atlanta, Chicago, St. Louis, Kansas City, Salt Lake City, Denver, Los Angeles, San Francisco, Seattle, New Orleans, Miami, Houston, Detroit, Anchorage and Honolulu
- ● 2. Locate the following places of the world on maps and globes, and describe how their locations relate to each other:
    - Europe, Asia, Australia, Africa, North America, South America, Antarctica
    - Amazon and Nile Rivers
    - Pacific, Atlantic, Indian and Arctic Oceans
    - Mediterranean Sea, Gulf of Mexico, Caribbean Sea
    - Himalayas, Alps, Andes and Sierra Madre Mountain Ranges
    - Canada, Mexico, Argentina, Brazil, Chile, Cuba and Panama; Great Britain, Ireland, France, Italy, Germany (East and West), the Netherlands, Spain, Switzerland and the Soviet Union; People's Republic of China, India, Pakistan, Iran, Korea (North and South) and Japan; Israel, Egypt and the Republic of South Africa
    - Mexico City; London, Paris, Rome and Moscow; Beijing, Hong Kong and Tokyo; Jerusalem and Cairo; Sydney
    - Central America and the Middle East
    - Tropical, temperate and arctic regions
- ○ 3. Describe approximate locations of various countries and cities studied so they can be found rapidly on a map.
- 4. Identify locations of and characteristics associated with particular regions studied: industralized nations, Third World nations, regions sharing common religions, Soviet bloc nations, densely populated nations, etc. (1)
- 5. Predict one or more characteristics (topography, industry, population, etc.) of a region or place, given other characteristics of the region or place.
- ○ 6. Locate places currently in the news on appropriate maps and globes.

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

- ● 1. Predict consequences of given changes in a community's, city's or nation's population, organization and living patterns, environment, or technology. (2)

C. Demonstrate an understanding of spatial relationships.

*The learner will:

1. Describe and explain changes in spatial distributions. (3)
2. Identify and describe consequences of major changes in spatial interactions. (4)

D. Use map-reading and map-making skills.

*The learner will:

- ● 1. Locate places on maps using simple atlas/gazetteer information.
- ● 2. Identify the appropriate maps useful for specific given purposes.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

## History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

The learner will:

○ 1. Explain specific contributions of other cultures studied to the culture of the United States.
○ 2. Identify major causes, major consequences and sequences of historical events studied.
● 3. Infer cause-effect relationships, given written passages which are historical in nature.

F. Understand how people's positions and experiences influence their views of events.

The learner will:

○ 1. Describe differences in how various people and groups perceive and judge events studied, and explain why their perceptions and judgments differ.

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

● 1. Compare powers and institutions of the government of the United States with those of state governments.
○ 2. Identify the steps in the elective process for various offices, and evaluate the extent to which they are democratic.
○ 3. Identify basic American documents and their relationship to the growth of our political system.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

○ 1. Identify how laws are made in the U.S. and in Missouri with respect to initiation of bills, work of committees and floor discussion within the legislative bodies.
● 2. Describe the various steps through which bills may pass in the legislative process.
● 3. Apply knowledge of the principles of separation of powers and checks and balances.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

● 1. Identify and explain basic constitutional rights and liberties of U.S. citizens.
○ 2. Distinguish between "rights" and "privileges" of American citizens.
● 3. Identify situations in which the exercise of individual rights may conflict with the common good.
○ 4. Identify and explain responsibilities of citizens of the United States and consequences that may follow when those responsibilities are not carried out.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

○ 1. Identify effective ways in which citizens may become informed about current issues, qualifications of candidates for public office and the basics of registration and voting.
○ 2. Identify the options open to an individual who becomes involved in a dispute with another individual.
● 3. Describe the methods available for citizens to use in influencing actions of public officials: lobbying, initiative, recall, referendum, other forms of petitions and writing letters to editors and officials.

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

● 1. Identify constitutional principles underlying arguments on both sides of given political issues.

L. Apply analytic skills to political messages and discussions.

The learner will:

○ 1. Distinguish between messages conveyed with intent to inform and messages conveyed with intent to persuade or promote certain actions.
○ 2. Identify and describe, in given cases, the specific methods being used to influence public opinion.

## Economics

M. Analyze economic decision situations with awareness of opportunity costs and trade-offs.

The learner will:

1. Identify trade-offs among economic goals (economic freedom, efficiency, equity, security, employment, growth, etc.) in situations where the government makes simple economic decisions.
● 2. Use a rational decision-making process when making or analyzing major economic decisions made by individuals, groups or govern-

ment. This process includes: (a) defining the problem with identification of goals in conflict; (b) listing alternatives; (c) stating and rating criteria; (d) evaluating alternatives; and (e) making a decision with awareness of the trade-offs and opportunity costs involved. (5)

N. Understand factors of production, their interrelationships and how investment in them relates to productivity.

The learner will:

1. Identify in given situations consequences (costs and benefits) related to changes in human resources, natural resources, capital resources, investment, technology, specialization, or productivity. (6)
2. Relate increased productivity to economic growth.

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and government in this and other economic systems.

The learner will:

● 1. Predict the effects of government policies related to taxes and expenditures, and predict the effects of changes in interest rates on individuals and businesses.

● 2. Define, explain and recognize examples of the concepts "market economy" and "command economy." (7)

3. Identify costs and benefits for individuals and businesses of various government regulations dealing with health, safety, fairness and equity.

P. Understand relationships among supply, demand, price and quantity of goods and services.

The learner will:

1. Describe consequences in given situations where prices are set by government action (minimum wage laws, agricultural price supports, subsidized housing, etc.) above or below market clearing prices. (8)
2. Predict, where possible, changes in market prices based on changes in supply, demand or both.

Q. Understands how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

○ 1. Identify conditions that explain why some countries have higher levels of economic output (Gross National Product per capita) than others; explain how investment in human and capital resources or how given government policies affect GNP per capita.

● 2. Explain how changes in Gross National Product in relation to population, the level of unemployment and the level of prices affect the standard of living of different groups within a country.

R. Understand principles related to trade (personal, regional or international).

The learner will:

1. Explain, with examples, why nations trade, and state advantages and disadvantages in specific cases.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify role expectations connected with various positions in the community, workplace, government, home and school.
2. Identify factors that explain why people conform to or deviate from socially accepted behavior.
3. Analyze and evaluate efforts of leaders in accomplishing various goals in historical cases studied.
4. Identify ways parents can help their children become competent, responsible, creative adults.

○ 5. Identify examples, causes and consequences of prejudice and discrimination.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

1. Describe the impact of family, religion, government, education, media, the arts, business and other institutions on U.S. culture and other cultures studied.

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

1. Identify major features of other cultures studied pertaining to family, religion, government, economics, technology and the arts.
2. Identify how people of different cultures studied fulfill their basic needs.

V. Understand and use appropriate techniques for investigating social studies topics.

The learner will:

● 1. Identify resources in the library that may be used to investigate given topics related to history or geography: card catalogs, *Readers' Guide*, encyclopedias, almanacs, atlases, periodicals, fiction and nonfiction books.

- ● 2. Analyze historical resources by distinguishing between primary and secondary sources and by identifying biases.
- 3. Draw inferences about the characteristics of a region or place from maps, statistical data or primary (written or visual) sources.
- ● 4. Interpret information included in given graphs, charts and tables.

## Notes

(1) "Region" refers to an area that displays unity in terms of selected criteria. There are many ways regions may be defined, with those ways depending upon the questions being studied. The word "studied" as used in this and other objectives here is a signal to indicate that the objective should be related to content emphasized in the local curriculum.

(2) Examples of such changes may be found in current news stories as well as in history. The point is to make students aware of events such as the 1986 incident involving the Soviet nuclear reactor at Chernobyl, the construction of a major automobile factory in Wentzville, or a shift in land use in a rural area. Students should then be asked to predict consequences.

(3) "Spatial distributions" refers to natural or man-made patterns of how places are located in relationship to each other. Examples of natural spatial distributions include beaver dams on streams or predictable variations of plant and animal species as one travels from the equator toward the North or South Poles or travels from low to high elevations. Man-made spatial distributions include arrangement of rooms in buildings, organization of space in cathedrals, arrangement of towns and cities in rural areas, layout of different districts of cities and so on. Spatial distributions are influenced by many factors, including topography, tastes and technologies.

(4) "Spatial interactions" refers to interactions of people in different places resulting from communication and transportation linkages.

(5) "Trade-offs" refers to giving up all or part of one thing to get all or part of another thing. For example, buying baseball cards may mean you cannot buy a candy bar, gum or a soda. Having a longer assembly means giving up all or part of music, art or history class. Determining trade-offs involves considering the things you choose not to have to get something. The best of the alternatives one foregoes when making a choice is the "opportunity cost." Opportunity cost is, therefore, the next best alternative when scarce resources are used for one thing rather than another. For example, the opportunity cost of buying baseball cards may be the candy bar, the gum or the soda, whichever you consider the best alternative. Similarly, the opportunity cost of a longer assembly would be the music, art or history missed, whichever is your favorite class—not all three. Determining opportunity cost involves considering how the use of resources for one purpose means the loss of an opportunity to obtain something. Teachers are *not* advised to have students distinguish between opportunity costs and trade-offs because there is so much overlap in their meaning.

(6) "Investment" refers to the use of resources by businesses, individuals or government to increase productive capacity by developing new technology, purchasing capital resources or enhancing the quality of the work force. "Productivity" refers to the output per unit of input, usually labor. Productivity may be altered by changes in technology.

(7) A market economy is an economic system in which decisions about what to produce, how, and for whom are determined through the decentralized decisions of individuals, who, as producers and consumers, offer to sell and buy goods and services in the market place, with price being determined by the aggregated demand and supply of the individuals of the society. The resulting price influences what is produced, how and for whom. A command economy, on the other hand, is a system in which decisions about what to produce, how, for whom, and at what price are determined by authorities.

(8) Market clearing prices are those prices at which there is neither surplus nor shortage. A store that has dresses priced above the market clearing price would have a surplus, which it would likely clear by reducing the price. A store that has dresses priced below the market clearing price would quickly find its stock about to be depleted, a condition which may be corrected by raising prices.

Governments in various countries sometimes set prices of certain items and may do so above or below market clearing prices. For example, a government may set minimum wages above the market clearing price, with the result that there is a surplus of labor, because at the minimum wage more people are willing to work than employers are willing to hire. On the other hand, a government may set rent ceilings for apartments below the market clearing price, with the result that there is a shortage of apartment units.

# Social Studies/Civics

## LEVEL X

*Teachers using this guide should not feel confined to these competencies and learner outcomes in planning and conducting teaching/learning experiences. Instead, these learner outcomes should be included in the material usually taught at the various levels.*

### Geography

A. Demonstrate a knowledge of place geography.

*The learner will:

● 1. Locate the following places in the United States on maps, and describe how their locations relate to each other:
  - The 50 states
  - Rocky Mountains, Appalachian Mountains, Sierra Madre Mountains, Cascade Range, Ozark Highlands
  - The Great Plains
  - St. Lawrence, Columbia, Colorado, Rio Grande, Missouri, Ohio, Mississippi and Tennessee Rivers
  - Lake Michigan, Lake Huron, Lake Superior, Lake Ontario, Lake Erie, Great Salt Lake
  - Washington, D.C., New York City, Boston, Atlanta, Chicago, St. Louis, Kansas City, Denver, Los Angeles, San Francisco, Seattle, New Orleans, Houston, Detroit, Honolulu (Pearl Harbor), Miami and Anchorage

● 2. Locate the following places of the world on maps, and describe how their locations relate to each other:
  - Europe, Asia, Australia, Africa, North America and South America
  - Pacific, Atlantic, Indian and Arctic Oceans; Caribbean, Mediterranean, Bering, Black, Baltic and Red Seas; Sea of Japan; Gulf of Mexico and Persian Gulf
  - Amazon, Nile, St. Lawrence, Danube, Rhine, Volga, Ganges, Zaire (Congo) and Hwang Rivers; Tigris-Euphrates River System
  - Himalayas, Alps, Andes, Sierra Nevada and Rocky Mountains
  - Desert regions in North Africa, the Arabian peninsula and Australia
  - Canada, Mexico, Panama, Argentina, Brazil and Cuba; Great Britain, Ireland, France, Spain, Italy, Switzerland, Germany (East and West), Holland, Austria, Poland, Greece, Norway and the Soviet Union; China, India, Indonesia, Japan, Bangladesh, Pakistan, Korea (North and South), Vietnam and Iran; Israel, Egypt, Saudi Arabia, Nigeria, Zaire and South Africa
  - Mexico City, Sao Paulo, Rio de Janeiro and Montreal; London, Paris, Rome, Berlin, Warsaw, Athens and Moscow; Beijing, Hong Kong, Tokyo, Jerusalem and Mecca; Cairo, Nairobi and Johannesburg
  - Central America, the Middle East and Scandanavia

○ 3. State or identify approximate locations of major cities or countries not listed above so they can be found rapidly on a map or globe.

○ 4. Identify locations of and characteristics associated with particular regions studied: industrialized nations, Third World nations, regions sharing common religions, Soviet bloc nations, densely populated nations, specific countries like Saudi Arabia and Canada, specific cities like Washington, D.C. and Detroit, etc. (1)

5. Use the concept "region" in categorizing and comparing places.

6. Predict probable characteristics of a place, given limited information about the place.

B. Demonstrate an understanding of relationships between people and their surroundings.

*The learner will:

● 1. Predict consequences of given changes in a community's, city's or nation's population, organization and living patterns, environment, or technology.

○ 2. Identify issues related to use of the environment in specific cases involving competing values (freedom of movement vs. overcrowding of cities; need for fuel now vs. conservation of resources, etc.).

3. Identify costs and benefits of ways in which people studied have used the environment.

C. Demonstrate an understanding of spatial relationships.

---

*Key skills to be included in the State Assessment are designated by the symbol "●." Key skills to be assessed locally are designated by the symbol "○."

**Note:** Numbers in parenthesis following learner outcomes refer to footnotes found at the end of this section.

The learner will:

● 1. Predict or describe cause-effect relationships between decisions by individuals or governments and spatial distributions or spatial interactions. (2,3)

D. Use map-reading and map-making skills.

The learner will:

○ 1. Select appropriate maps for specific purposes.
○ 2. Use atlases to locate places, formulate hypotheses and draw conclusions about places and their interrelationships.
● 3. Evaluate conclusions drawn from a variety of given maps.

## History

E. Demonstrate knowledge of significant historical events and developments, their relationships to each other and to the present.

The learner will:

1. Describe how the following cultures contributed to our heritage:
    - Athenian democracy, fine arts and architecture
    - Roman order, law and architecture
    - Judeo-Christian traditions
    - Renaissance and Enlightenment Europe and its emphasis on human achievement, observation, reason, aesthetics
    - England and the development of courts, common law and an independent parliament

● 2. Identify major causes of major historical events and developments related to the following topics from modern U.S. and world history:
    - New ideas (Renaissance, Reformation, enlightenment, nationalism, science)
    - Expansion of Western influence to the Americas, Asia and Africa
    - Major political revolutions (American, French, Russian, Chinese)
    - Industrial revolutions (Britain, United States, Europe, Japan)
    - Major population migrations, especially those to the United States
    - Struggles in the United States for extension of democratic ideals (Jacksonian democracy, Abolitionism, Radical Republicanism following the Civil War, Progressive Era, Women's Suffrage, New Deal, Civil Rights Movement)
    - Totalitarian systems (1930s, 1940s)
    - Major wars (Napoleonic, U.S. Civil War, World War I, World War II, Korean War, Vietnam War)
    - Post-World War II realignment of world powers; changes in World War II's losers, Germany and Japan; the creation of new nations from European empires; the Cold War

● 3. Identify major consequences of major historical events and developments related to the topics from modern U.S. and world history cited in E-2.
● 4. Identify sequences of major historical events related to the topics from modern U.S. and world history cited in E-2.
○ 5. Indicate roles of certain individuals and groups studied in connection with the events cited in E-2.
6. Analyze contemporary problems in the light of their historical development and complexity, and propose solutions to them. Such problems include:
    - Population growth placing strains on essential resources
    - Changing relationships among dominant and minority groups in the United States and in other cultures studied
    - Pollution of various sorts
    - Severe poverty in some places
    - Security of nations, including that of the United States and other nations in the nuclear age
7. Indicate how folk and fine arts have been influenced by and been an influence upon historical events and developments.

F. Understand how people's positions and experiences influence their view of events.

The learner will:

○ 1. Describe differences in how various people and groups perceive and judge events studied, and explain why their perceptions and judgments differ.
2. Explain why different historians often interpret the same event differently.

## Government (Civics)

G. Understand and apply basic principles of our political system.

The learner will:

● 1. Compare principles and institutions of the government of the United States with those of other countries, democratic and nondemocratic, as described or studied in class. (4)
● 2. Infer and explain basic principles of democratic government quoted from important American documents (the Declaration of Independence, the Constitution, speeches such as Gettysburg Address and Supreme Court decisions).

3. Identify and explain any of the core beliefs that must be shared among a citizenry if democratic government is to be secure: need to be informed, respect for the dignity of all people, support for the marketplace of ideas, respect for law, etc.
4. Propose ways to determine whether a political system could be called democratic.

H. Understand basic institutions and processes of law making, law enforcement and law interpretation.

The learner will:

1. Identify examples of powers delegated, shared and forbidden to federal and state governments in the United States Constitution.
● 2. Identify different ways in which law is made in the United States and Missouri (legislation initiated in legislative bodies, rulings by judges in legal cases, initiatives and referenda), and explain various restraints on lawmakers (constitution, anticipated checks from other branches, public opinion, limits of time and money, etc.).
● 3. Identify major responsibilities of leading officials in each branch of federal, state and local government.
4. Compare different courts that affect citizens, and describe their powers:
   - Trial, appeals and supreme courts
   - Criminal and civil courts
   - Adult and juvenile courts
5. Identify examples of international law (custom and treaty), and tell how such law is made.

I. Understand rights and responsibilities of citizens in democratic societies.

The learner will:

● 1. Explain or identify the meaning and significance of various rights guaranteed by the Constitution, and cite where in the Constitution those rights may be found.
2. Distinguish between situations in which constitutional rights are clearly defined and situations in which constitutional rights are still being interpreted.
3. Explain how criminal and civil legal systems protect the rights of citizens, and identify citizen responsibilities in the functioning of those systems.
4. Indicate how rights and responsibilities of citizens change with age and position (driver of vehicle, spouse, parent, employee, party to contract, voter, etc.).
5. Explain what national and international law can and cannot accomplish.

J. Understand processes by which citizens may help resolve disputes and influence policy making.

The learner will:

1. Explain roles of citizens (plaintiff, defendant, member of jury) in the resolution of disputes in the United States legal system.
2. Describe processes by which candidates are nominated, appointed and elected to office at state and national levels.
● 3. Identify ways in which citizens may participate in government in the United States and Missouri, and evaluate the likely effects of specific efforts to influence public policy in given cases.
○ 4. Demonstrate knowledge about current issues, incumbents, candidates for office, and basics of voting and registration.

K. Analyze real and hypothetical cases in relation to persistent issues of government in American society.

The learner will:

● 1. Identify constitutional principles underlying arguments on both sides of political issues described or studied.
● 2. Explain how specific constitutional principles have changed over time. (For example, the interstate commerce clause was extended; the equal protection clause was changed from supporting "separate but equal" to require integration; the religious freedom clause has been interpreted to restrict formal prayer in school.)

L. Apply analytic skills to political messages and discussions.

The learner will:

1. Draw inferences about the position of a person on a political issue based on his or her writing, speaking or cartoons.
○ 2. Identify the nature of various disagreements among people discussing political questions, and identify ways to resolve or clarify the disagreement.
● 3. Recognize and describe propaganda techniques (including subliminal messages) in political presentations and advertisements.
4. Ask appropriate questions to get the information needed to make decisions concerning social, political and economic issues.

## Economics

M. Analyze economic decision situations with awareness of opportunity cost and trade-offs.

The learner will:

○ 1. Identify ramifications for society of private and public economic decisions in cases studied.

2. Identify trade-offs among general economic goals (economic freedom, growth, equity, security, employment, efficiency, price stability, etc.) in given decisions made by the government. (5).

● 3. Use a rational decision-making process when analyzing economic decisions by individuals or the government. This process includes: (a) defining the problem with identification of economic goals in conflict; (b) listing alternatives; (c) stating and rating criteria; (d) evaluating alternatives; and (e) making a decision with awareness of the trade-offs and opportunity costs.

N. Understand factors of production, their interrelationships, and how investment in them relates to productivity.

The learner will:

1. Identify benefits and costs of increasing productivity in specific cases. (6)
2. Propose ways to increase productivity in given cases.

O. Understand economic relationships (flows of money, goods and services) among households, businesses, financial institutions, labor unions and governments in this and other economic systems.

The learner will:

● 1. Define and illustrate the concepts of "market economy" and "command economy," and apply those concepts in analyzing mixed economic systems. (7)

2. Explain how businesses in the United States raise funds for investment. (8)

3. Describe major functions of labor unions, and explain their impact in the past and present.

4. Contrast economic systems studied on the basis of: (a) relative sizes of public and private sectors; (b) the proportion of market decision making as opposed to command decision making; and (c) the relative proportions of capital and labor in production methods.

● 5. Predict the probable effects of government policies related to taxes, expenditures or regulations and of changes in interest rates on households, businesses and workers in given cases.

P. Understand relationships among supply, demand, price and quantity of goods and services in market economies.

The learner will:

1. Predict shifts in demand when given information about changes in consumer income, tastes and preferences and changes in prices of other goods and services; predict shifts in supply when given information about changes in production costs. (9)

2. Predict changes in market prices and quantities of goods and services, based on changes in supply, demand or both.

3. Identify situations where a free, unregulated market economy will not provide incentives for people to produce what a society defines as its public needs (national defense, education for all, police protection, etc.).

● 4. Predict consequences in given situations where prices are set by government above or below the market clearing price and where monopolies or oligopolies change supply to affect prices. (For example, what would likely result if automobile companies charge a very high price for automobiles, or if a government sets a price for milk so low that there is excess demand ?) (10)

5. Explain how the labor market is influenced by fluctuations in supply or demand.

6. Relate concepts of supply and demand to historical events and current affairs.

Q. Understand how a nation's level of output, income, employment and distribution of income is determined.

The learner will:

● 1. Predict probable living conditions in a nation when given information about two or more of these factors: Gross National Product (GNP), level of unemployment, level of prices, and size of population. (11)

● 2. Identify conditions that explain why some countries have higher levels of economic output (GNP per capita) than others.

3. Predict the probable impact of government economic policies on such factors as growth in economic output, employment, consumer spending, price levels and distribution of income in given situations. (Such policies include changes in level and types of taxes, in total government spending, in regulations to promote health and safety and in the Federal Reserve's influence over interest rates.)

R. Understand principles related to trade (personal, regional or international).

The learner will:

1. Explain, with examples, why nations trade, and state advantages and disadvantages in specific cases. (12)
2. Describe how and why governments promote and restrict trade among nations, and predict the consequences of trade restrictions for nations, businesses and households.

## Other Social Studies Competencies

S. Understand cause-effect relationships related to the behavior of individuals and groups.

The learner will:

1. Identify role expectations connected with various positions in the workplace, government, home and school.
2. Identify factors that explain why people conform to or deviate from socially accepted behavior.
3. Analyze and evaluate efforts of leaders in accomplishing various goals in historical cases studied.
4. Identify ways parents can help their children become competent, responsible, creative adults.
5. ● Describe prejudice and discrimination, their causes and consequences.

T. Understand institutions and processes for meeting basic human needs.

The learner will:

1. Describe changes studied regarding family, religion, government, education, business and the arts and how such changes have influenced the lives of people.

U. Understand variations among cultures in their belief systems, institutions and social structures.

The learner will:

1. Explain major features of family structure, religion, politics, economics, technology and art forms in cultures studied.
2. ○ Cite examples illustrating how people of different cultures have common fundamental needs but use different ways of meeting those needs.
3. Identify instances of stereotyping, and illustrate how stereotypes may handicap a person in understanding other people.

V. Understand and use techniques for investigating social studies topics.

The learner will:

1. ● Identify and evaluate methods and resources for investigating given topics related to other cultures, history, current politics or economics.
2. ○ Make and evaluate inferences drawn from specialized maps, statistical data and primary sources. (Inferences must follow logically from the data and must consider whether the data are representative and objective.)

## Notes

(1) "Region" refers to an area that displays unity in terms of selected criteria. There are many ways regions may be defined, with those ways depending upon the questions being studied. The word "studied" as used in this and other objectives here is a signal to indicate that the objective should be related to content emphasized in the local curriculum.

(2) "Spatial distributions" refers to natural or man-made patterns of how places are located in relationship to each other. Examples of natural spatial distributions include beaver dams on streams or predictable variations of plant and animal species as one travels from the equator toward the North or South Poles or travels from low to high elevations. Man-made spatial distributions include arrangement of rooms in buildings, organization of space in cathedrals, arrangement of towns and cities in rural areas, layout of different districts of cities and so on. Spatial distributions are influenced by such factors as topography, tastes and technologies.

(3) "Spatial interactions" refers to interactions among people of different places resulting from communication and transportation linkages.

(4) Test items will describe some facet or facets of another political system and will ask students to identify how what was described is similar to or different from the U.S. system.

(5) "Trade-offs" refers to giving up all or part of one goal in order to obtain all or part of another goal.

(6) "Productivity" refers to the output per unit of input, usually labor. Productivity may be altered by changes in technology.

(7) A market economy is an economic system in which decisions about what to produce, how, and for whom are determined through the decentralized decisions of individuals, who, as producers and consumers, offer to sell and buy goods and services in the market place, with price being determined by the aggregated demand and supply of the individuals of the society. The resulting price influences what is produced, how and for whom. A command economy, on the other hand, is a system in which decisions about what to produce, how, for whom, and at what price are determined by governmental authorities.

(8) "Investment" refers to the use of resources by businesses, individuals, or government to increase productive capacity by developing new technology, purchasing capital resources or enhancing the quality of the work force.

(9) A change in supply is defined as a condition in which producers are willing to produce more or less of a good or service even though prices remain constant. A change in demand is similarly defined as a condition

in which consumers choose to buy more or less of a good or service even though prices remain constant. An example of the former would be companies producing less steel because increased production costs have reduced profit. An example of the latter would be people choosing to buy more hot chocolate at a football game, not because prices have changed, but because the temperature has suddenly plummeted.

(10) Market clearing prices are those prices at which there is neither surplus nor shortage. A store that has dresses priced above the market clearing price would have a surplus, which it would likely clear by reducing the price. A store that has dresses priced below the market clearing price would quickly find its stock about to be depleted, a condition which may be corrected by raising prices.

Governments in various countries sometimes set prices of certain items and may do so above or below market clearing prices. For example, a government may set minimum wages above the market clearing price, with the result that there is a surplus of labor, because at the minimum wage more people are willing to work than employers are willing to hire. On the other hand, a government may set rent ceilings for apartments below the market clearing price, with the result that there is a shortage of apartment units.

Large companies—monopolies or oligopolies—have so little competition that they can exercise much control over both supply and price. Thus, automobile companies may choose to raise prices and reduce supply, with the result that they will get their higher prices, but with fewer customers buying their product.

(11) "Gross National Product" (GNP) refers to the dollar value of all final goods and services produced annually by a nation's economy. Concepts important for students to understand related to GNP are "per capita GNP," the GNP divided by the population of a nation, and "real GNP," the GNP figure for a nation with corrections made for changes in the value of the nation's currency unit. Per capita GNP is obviously a much better indicator of standard of living than GNP alone, because nations with the same GNP may have population sizes that differ considerably. Real GNP is also a better indicator of actual output of goods and services because without correction for inflation or deflation, a change in the GNP figure might reflect only the inflation or deflation, not a change in output. The terms "per capita GNP" and "real GNP" will not be used in the Level X test items, but students who understand the ideas behind the terms will find the items much easier to comprehend.

(12) Underlying advantages of interdependence is the economic concept, "comparative advantage." "Comparative advantage" refers to the condition in which it pays for one producer to specialize in producing something and trade for something else, even if that producer could produce both products well. For example, a woman who is a gourmet cook and also an expert lawyer might decide it is to her advantage to devote her efforts to being a lawyer and to purchase meals at a restaurant, because the opportunity cost of her cooking fancy meals would be her income as an attorney. The same principle may be used to explain why Manhattan is a financial center, why Oregon is strong in timber and why Switzerland produces clocks and watches. Specialization and trade, resulting in interdependence, have contributed to high standards of living in industrial nations. They have also contributed to having conditions within one nation dependent upon conditions in other countries, a source of insecurity. Moreover, some of the poorer nations in the world, dependent on demand for the few products they have to trade, may be especially subject to unstable conditions and may find it difficult to lift themselves to higher standards of living as a result.

# Selected Resources for Levels IX and X
# Language Arts/Reading/English

**Department Publications**

The following Missouri Department of Elementary and Secondary Education Publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*A Writing Guide for Missouri Schools, K-12.* Suggests a philosophical framework for the teaching of writing and provides practical suggestions and activities for encouraging student interest and growth in writing. Provides suggestions for integrating writing in all curricular areas.

*BEST Activity Book for Reading/Language Arts.* Suggests activities that deal with real-life reading/language arts activities appropriate for students and that relate to objectives tested by Basic Essentials Skills Test.

*The Missouri Basic Word List.* Provides a group of high-frequency usage words that should be in the oral and writing vocabularies of students. Words on this list could serve as a source of spelling words for students.

**Publications and Articles**

*Teaching Reading Comprehension.* Pearson, P. David and Johnson, Dale D. Holt, Rinehart and Winston, 901 North Elm Street, Hinsdale, Illinois 60521.

*Understanding Writing.* Newkirk, Thomas and Atwell, Nancie (ed.) Northwest Regional Exchange, Inc., Chelmsford, Maine 01824.

*Roots in the Sawdust.* Gere, Anne Ruggles (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Writing in the Secondary School.* Applebee, Arthur (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Evaluating Writing.* Cooper, Charles R. and Odell, Lee (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Teaching Reading Comprehension.* Page, William D. and Pinnell, Gay Su (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Classroom Applications of Writing Assessment.* Northwest Regional Educational Laboratory, 300 S.W. Sixth Avenue, Portland, Oregon 97204.

*Classroom Strategies for Secondary Reading, 2nd ed.* Harker, W. John (ed.) International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, Delaware 19714-8139.

*Research on Written Composition.* Hillocks, George Jr. (ed.) National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Language Connections: Writing and Reading Across the Curriculum.* Fulwiler, Toby and Young, Art (ed.) National Council for Teachers of English. 1111 Kenyon Road, Urbana, Illinois 61801.

*A Procedure for Writing Assessment and Holistic Scoring.* Myers, Miles. National Council for Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

*Becoming a Nation of Readers.* The Center for the Study of Reading, University of Illinois, Champaign, Illinois 61821.

*Sentencecraft.* O'Hare, Frank. Ginn & Co., P.O. Box 2649, Columbus, Ohio 43216.

*Speech Communication for the Classroom Teacher.* Cooper, Pamela J.

**Video Tape Series**

The following video cassette instructional programs are available from the University of Missouri-Columbia, Academic Support Center, 505 E. Stewart Road, Columbia, Missouri 65211. (314) 882-3608.

*In Other Words.* A series of twelve 15-minute programs in language arts usable with ninth graders. Such topics as "Consider Your Audience," "Breaking Down a Topic," "Using the Words of Others" and "How Can I Get People to Listen?" provide problems that are meaningful to students.

*WhatAbout.* Although this series deals with science-related topics, emphasis is placed upon use of such thinking skills as questioning, observing, classifying, predicting and communicating.

**Agencies and Organizations**

International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, Delaware 19714-8139.

Missouri International Reading Association. Contact: Betsy Baker, 4203 S. Providence, Columbia, Missouri 65203.

National Council of Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801.

Missouri Association of Teachers of English, Dr. Peter Hasselriis, Treasurer, University of Missouri-Columbia 65211.

Speech and Theater Association of Missouri. Contact: Dr. Dan Curtis, Central Missouri State University, Warrensburg, Missouri 64093.

## Developing and Evaluating Listening/Speaking Skills

Development of listening/speaking skills begin early in the individual's life—to the point that by the time a student enters school, he/she has been employing listening/speaking skills to meet individual needs for some time. Elementary teachers include activities to develop effective listening/speaking skills in all subject areas. Skills essential for effective listening/speaking should be extended in grades 9 and 10 by carefully planned instructional activities and assessed so that corrective measures can occur. Because listening/speaking skills are not easily assessed by pencil and paper tests, a committee of members of the Speech and Theater Association of Missouri has provided suggestions for assessment of skills at the classroom level.

## Interviewing

The following questions can be used to help students plan and evaluate interviewing processes.

Initial Contact: Was the purpose made clear initially? Was it very clear that this was a course assignment? Were your first impressions during the request period positive?

Initiating Interview: Was the student adequately and properly groomed and dressed? Did the student have adequate "small talk"? overview the topics to be covered? request to tape record the interview? discuss the use of the information?

Body of the Interview: Did the student go from open to closed questions on each topic? Did the student control the pace and direction of the interview? Did the interviewer probe for depth at proper points? Was note taking really unobtrusive? Did the student grow in confidence and poise?

Close and Leave Taking: Did the interviewer draw the interview to a smooth close? Was she/he courteous and appreciative? Was the ending impression positive?

## Persuasive and/or Informative Speaking

The questions below can be used to help students plan and evaluate persuasive/informative speeches.

Introduction: Did the introduction gain attention of listeners?

Content: Was the content of the speech worthy of commendation? Was the topic fresh? was a unique approach used?

Organization: Was the speech well organized in its development from introduction to conclusion? Was supportive material presented?

Delivery: Did the speaker employ a persuasive approach? Did he/she use effective eye contact, voice, diction, gestures, and movement? Did the speaker exercise a lively sense of communication?

Total Effectiveness: Did the speech effectively fulfill its intended purpose? Did it provide a workable solution?

## Oral Interpretation

The following questions can be used to help students plan and evaluate oral interpretation.

Choice of Selection: Was the selection of recognized literary value?

Introduction: Did the introduction set scene, time, place? Did it introduce the characters and their importance to the piece?

Characterization: Did the interpreter adequately portray and sustain the characters in the scene? Did dialogue, gestures, tempo, reflect a keen understanding of the characters?

Voice and Diction: Did voice aid in the development of the characters? Were gestures natural and appropriate?

Bodily Action: Was the student poised in posture and gesture? Were gestures natural and appropriate?

Total Effectiveness: Was presentation smooth? Did it have an impact on the audience?

## Rubric for Scoring Writing

Student papers for writing assessment will be scored by holistic methods. Papers will be evaluated on a scale from one to six. Each scoring level considers the following aspects of composition: focus, organization, development, mechanics, sentence structure and diction. The scale for tenth grade with descriptors for each level is as follows.

**SCORING LEVEL SIX**

a. *Focus* Has clear controlling idea and sense of direction; responds directly to topic
b. *Organization* Includes logical progression of ideas

and coherence; contains evident beginning, middle and end

c. *Development* Contains strong support, many specifics

d. *Mechanics* Has good to excellent mechanics; contains no distracting errors

e. *Sentence structure* Possesses sentence clarity, complexity and variety

f. *Diction* Includes mature and appropriate vocabulary and diction; freshness of expression

### SCORING LEVEL FIVE

a. *Focus* Has controlling idea and sense of direction; responds to topic

b. *Organization* Includes logical progression of ideas and coherence; contains beginning, middle and end

c. *Development* Contains good support, several specifics

d. *Mechanics* Has good to excellent mechanics; contains no major distracting errors

e. *Sentence structure* Possesses clear sentences, though they may lack variety and complexity

f. *Diction* Includes appropriate vocabulary and diction, though these may lack freshness and variety

### SCORING LEVEL FOUR

a. *Focus* Has a controlling idea and sense of direction, though may be less evident than in higher categories

b. *Organization* Includes a generally logical progression of ideas and paragraphing where appropriate, though may occasionally show lapses in coherence and less fully developed sense of beginning, middle, end

c. *Development* Contains details for support, but these details may lack specificity or lack generalizations to frame details used

d. *Mechanics* Has fair to excellent mechanics

e. *Sentence structure* Possesses clear sentences, though they may lack variety and complexity

f. *Diction* Includes appropriate vocabulary and diction, though these may lack freshness and variety

### SCORING LEVEL THREE

a. *Focus* Has a controlling idea, but it may be vague

b. *Organization* May contain some irrelevancies or digressions from controlling idea; may contain little sense of beginning, middle, end

c. *Development* Has details for support, but these details may lack specificity or appropriateness

d. *Mechanics* Has poor to excellent mechanics

e. *Sentence structure* Has sentences which are fairly clear but which lack maturity

f. *Diction* Has less sophisticated vocabulary and diction

### SCORING LEVEL TWO

a. *Focus* May possess a controlling idea or may lack a controlling idea altogether

b. *Organization* May lack coherence; may be characterized by digressions or irrelevancies; may have little sense of beginning, middle, end

c. *Development* May have little support or development, or support may be irrelevant

d. *Mechanics* Has poor to good mechanics; often has distracting mechanical errors

e. *Sentence structure* May have immature sentences which lack clarity, complexity, and/or variety

f. *Diction* Has less sophisticated vocabulary and diction

### SCORING LEVEL ONE

a. *Focus* Lacks a controlling idea

b. *Organization* Lacks coherence; lacks sense of beginning, middle, end

c. *Development* Has little or no development or support

d. *Mechanics* Has poor to fair mechanics

e. *Sentence structure* May have immature sentences which lack clarity, complexity, and variety

f. *Diction* Has limited vocabulary and immature diction

**NOTE:** Errors in mechanics may lower a paper one to two categories.

# Suggested Topics for Student Writing

My first fight

My most embarrassing moment

The most stupid thing I ever did

My most serious accident

The wisest thing I ever did

Things I have lost

I'll never do that again!

The dog (or other pet) in my life

How my family celebrates a holiday

Meet my family

I was scared

A sports event I will never forget

What our school needs most

If I could do it over

How I learned to read

It's easier to blame others

Why I like (dislike) my name

Why . . . is my favorite sport

I like music because . . .

Why I want to be . . .

My idea of hard work is . . .

My idea of a good dinner is . . .

My idea of a dull evening is . . .

My worst enemy

Three books I want to own and why

A character from fiction that I would like to meet is . . .

The day I receive my driver's license

A fear I overcame

My biggest gripe is . . .

My experiences as a babysitter

An open letter to my parents

A curious dream

What a home ought to be

The picture of life one gets from TV

What it means to be poor

The most wonderful person I know

A brief description of myself

I wish I had lived in the time of

The main street of my hometown

My favorite restaurant is . . .

My favorite meal is . . .

How to care for a cat (pet)

How to find happiness

How to prepare my favorite food

How to choose a friend

We can be proud of our school because

## Suggested Reading List for Grades 9 and 10

1. Aiken, Joan. *A Whisper in the Night.*
2. Aldrich, Bess Streeter. *A Lantern in Her Hand.*
3. Alexander, Lloyd. *The Beggar Queen.*
4. Alexander, Lloyd. *The Kestral.*
5. Alsop, Joseph. *FDR: A Centenary Remembrance.*
6. Annixter, Paul. *Pride of Lions.*
7. Annixter, Paul. *Swiftwater.*
8. Asimov, Isaac. *Environments Out There.*
9. Austin, Jane. *Pride and Prejudice.*
10. Bach, Richard. *Jonathan Livingston Seagull.*
11. Barnes, Margaret Campbell. *The Tudor War.*
12. Barrett, William E. *The Lilies of the Field.*
13. Bennett, Jack. *The Voyage of the Lucky Dragon.*
14. Boulle, Pierre. *The Bridge over the River Kwai.*
15. Bradbury, Ray. *Dandelion Wine.*
16. Bradbury, Ray. *Fahrenheit 451.*
17. Brontë, Charlotte. *Jane Eyre.*
18. Brontë, Emily. *Wuthering Heights.*
19. Bruce, Preston. *From the Door of the White House.*
20. Butterworth, W.E. *Redline 7100.*
21. Calvert, Patricia. *The Hour of the Wolf.*
22. Campanella, Roy. *It's Good to be Alive.*
23. Capote, Truman. *One Christmas.*
24. Cather, Willa. *Death of the Archbishop.*
25. Cather, Willa. *My Antonia.*
26. Cather, Willa. *Shadow on the Rock.*
27. Christie, Agatha. *Murder on the Orient Express.*
28. Cleaver, Bill and Vera. *A Little Destiny.*
29. Collins, Wilkie. *The Moonstone.*
30. Collins, Wilkie. *The Woman in White.*
31. Cooper, James Fenimore. *The Deerslayer.*
32. Cooper, James Fenimore. *The Last of the Mohicans.*
33. Crane, Stephen. *The Red Badge of Courage.*
34. Craven, Margaret. *I Heard the Owl Call My Name.*
35. Dana, Richard Henry, Jr. *Two Years Before the Mast.*
36. Daniel, Clifton. *Lords, Ladies and Gentlemen.*
37. Debo, Angie. *Geronimo: The Man, His Time, His People.*
38. Dickens, Charles. *Great Expectations.*
39. Dickens, Charles. *A Tale of Two Cities.*
40. Doyle, Arthur Conan. *The Complete Sherlock Holmes.*
41. Dumas, Alexander. *The Count of Monte Cristo.*
42. Dumas, Alexander. *The Three Musketeers.*
43. Easwaran, Eknoth. *Gandhi the Man.*
44. Eliot, George. *Silas Marner.*
45. Erdos, Richard and Ortiz, Alfanso. *American Indian Myths and Legends.*
46. Ferber, Norma. *Mercy Short: A Winter Journal.*
47. Fast, Howard. *April Morning.*
48. Gadney, Reg. *Kennedy.*
49. Gaeddert, Lou Ann. *Your Former Friend, Matthew.*
50. Gallico, Paul. *The Snow Goose.*
51. George, Jean. *The Talking Earth.*
52. Godden, Rummer. *The River.*
53. Goulart, Ron (ed.). *The Great British Detective.*
54. Gunther, John. *Death Be Not Proud.*
55. Hale, Edward Everett. *Man Without a Country.*
56. Hardy, Thomas. *Tess of the d'Urbervilles.*
57. Hawthorne, Nathaniel. *The House of the Seven Gables.*
58. Hawthorne, Nathaniel. *The Scarlet Letter.*
59. Healey, Larry. *Angry Mountain.*
60. Hemingway, Ernest. *The Old Man and the Sea.*
61. Herbert, Marie. *Winter of the White Seal.*
62. Hitchcock, Alfred (ed.). *Alfred Hitchcock's Daring Detectives.*
63. Hitchcock, Alfred (ed.). *Alfred Hitchcock's Sinister Spies.*
64. Hollander, Phyllis and Zander. *Dan Fouts, Ken Anderson, Joe Theismann and Other All-Time Great Quarterbacks.*
65. Houston, James and Jeanne. *Farewell to Manzanar.*
66. Hudson, W. H. *Green Mansions.*
67. Hyde, Dayton. *Island of the Loons.*
68. Jackson, Helen Hunt. *Ramona.*
69. Jenner, Bruce and Finch, Phillip. *Decathlon Challenge: Bruce Jenner's Story.*
70. Kennedy, John F. *Profiles in Courage.*
71. L'Amour, Louis. *Son of a Wanted Man.*
72. L'Engle, Madeline. *A Wind in the Door.*
73. L'Engle, Madeline. *A Swiftly Tilting Planet.*
74. Llewellyn, Richard. *How Green Was My Valley.*
75. London, Jack. *The Call of the Wild and Selected Stories.*
76. London, Jack. *The Sea Wolf.*
77. Martin, Ralph G. *President from Missouri.*
78. Matthee, Dalene. *Circles in the Forest.*
79. Mazer, Harry. *The Island Keeper.*
80. Melville, Herman. *Billy Budd.*
81. Michener, James. *The Bridges of Toko-Ri.*
82. Morey, Walt. *Canyon Winter.*
83. Mowat, Farley. *Lost in the Barrens.*
84. Mowat, Farley. *Never Cry Wolf.*
85. Nathan, Robert. *Portrait of Jennie.*
86. Neufeld, John. *Lisa, Bright and Dark.*
87. Nixon, Richard. *Leaders.*
88. Nordhoff, Charles and Hall, James Norman. *Mutiny on the Bounty.*
89. Ogbrun, Charles, Jr. *The White Falcon.*
90. Orczy, Baroness Emmuska. *The Scarlet Pimpernel.*
91. Orwell, George. *Animal Farm.*
92. Parmet, Herbert S. *Jack: The Struggles of John F. Kennedy.*

93. Paton, Alan. *Cry, the Beloved Country.*
94. Paulsen, Gary. *Popcorn Days and Buttermilk Nights.*
95. Peavy, Linda and Smith, Ursula. *Women Who Changed Things.*
96. Poe, Edgar Allan. *The Fall of the House of Usher.*
97. Porter, Jane. *The Scottish Chiefs.*
98. Rawls, Wilson. *Summer of the Monkeys.*
99. Rosa, Joseph G. *They Called Him Wild Bill: The Life and Adventures of James Butler Hickok.*
100. Sabatini, Raphael. *Captain Blood.*
101. Schaefer, Jack. *Shane.*
102. Shelley, Mary. *Frankenstein.*
103. Shirley, Glenn. *Belle Starr and Her Times.*
104. Shute, Nevil. *On the Beach.*
105. Steinbeck, John. *The Pearl.*
106. Steinbeck, John. *The Red Pony.*
107. Steinbeck, John. *Travels with Charlie.*
108. Stevenson, Robert Louis. *Kidnapped.*
109. Stolz, Mary. *By the Highway Home.*
110. Sutcliff, Rosemary. *Bonnie Dundee.*
111. Swift, Jonathan. *Gulliver's Travels.*
112. Thoreau, Henry D. *Walden and Other Writings.*
113. Tolkien, J.R.R. *The Lord of the Rings.*
114. Townsend, Peter. *The Girl in the White Ship.*
115. Tunis, John R. *Grand National.*
116. Tunis, John R. *Iron Duke.*
117. Tuska, Jon (ed.). *The American West in Fiction.*
118. Verne, Jules. *Around the World in Eighty Days.*
119. Verne, Jules. *Journey to the Center of the Earth.*
120. Wells, H.G. *The War of the Worlds.*
121. White, T.H. *The Sword in the Stone.*
122. Wibberley, Leonard. *The Island of the Angels.*
123. Wisler, G. Clifton. *Buffalo Moon.*
124. Wisler, G. Clifton. *Thunder on the Tennessee.*
125. Wister, Owen. *The Virginian.*

# Selected Resources for Levels IX and X Mathematics

## Publications and Articles

*Active Mathematics Teaching.* Good, Grouws, Ebmeier and Longman. Research on Teaching Monograph Series. New York and London.

*An Agenda for Action: Recommendations for School Mathematics of the 1980's.* National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Mental Computation and Estimation.* Schoen (ed.), 1986 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Problem Solving in School Mathematics.* Krulik (ed.), 1980 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Teaching of Statistics and Probability.* Schulte (ed.), 1981 Yearbook, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.

*Statistics and Probability in Modern Life.* Newark, Rinehart Press, 901 North Elm, Hinsdale, Illinois 60521.

*Statistics By Example.* Mosteller, Frederick, et al. Addison Wesley, 1843 Hicks Road, Rolling Meadows, Illinois 60008.

*The Mathematical Sciences Curriculum K-12: What is Still Fundamental and What is Not.* Conference Board of Mathematical Sciences. National Science Foundation, Washington, D.C. 20402.

*Winning With Statistics.* Runyon, Addison Wesley, 1843 Hicks Road, Rolling Meadows, Illinois 60008.

## Video Tape Series

*Challenge of the Unknown* (1986)—A cost-free series of video problem solving segments which can be copied locally and includes one free teacher's guide. Make written requests for the free loan video masters and free teacher's guide to: Mr. Dick Robinson, Phillips Petroleum Company, 16C-4 Phillips Building, Bartlesville, Oklahoma 74004.

## Agencies and Organizations

Missouri Council of Teachers of Mathematics
Membership: K-12 Mathematics Teachers
Publication: MCTM Bulletin
Contact: Bob Buss (Parkway School District)

National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091.
Membership: K-12 Mathematics Teachers
Publication: *The Arithmetic Teacher*
*The Mathematics Teacher*
NCTM Bulletin

# Selected Resources for Levels IX and X Science

## Publications and Articles

*Exemplary Programs in Physics, Chemistry, Biology and Earth Science.* Yaeger, Robert E. (ed.) 1984. This may be ordered from the National Science Teachers Association, 1742 Connecticut Avenue, NW, Washington, D.C. 20009. Write for publications list.

*ISIS: Individualized Instructional System Dissemination Project.* A validated Title IV-C interdisciplinary modular science program preparing non-science oriented students to understand practical, real-world, science related problems. Contact: Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201.

*Missouri Conservation Frontiers: A Conservation Action Program.* An activities and award program that promotes school and community hands-on activities both in and out of school. Missouri Department of Conservation, Education Unit, P.O. Box 180, Jefferson City, Missouri 65102.

*Science Fairs and Projects.* This publication answers your questions about science fairs and lists resources. (Write for catalog.) NSTA Special Publications, 1742 Connecticut Avenue, NW, Washington, D.C. 20009.

*Terrestrial Natural Communities in Missouri.* Department of Natural Resources, Public Affairs Office, P.O. Box 176, Jefferson City, Missouri 65102. (Write for listings of additional publications, teacher workshops and other services.)

## Video Tape Series

*Audiovisual and Literature Catalog.* This catalog contains many free loan films, tapes, computer programs and publications appropriate for K-12 science. Missouri Department of Health, P.O. Box 570, Jefferson City, Missouri 65102.

*Agency for Instructional Technology Catalog of Educational Materials 1986.* (AIT) This catalog contains numerous materials and programs for science and the other core competency areas. Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*Solutions Unlimited.* A state owned set of eight video and eight microcomputer problem solving strategies with teacher's manual for grades five through eight and other appropriate grade levels. May be purchased at state cost from: Agency for Instructional Technology, Box A, Bloomington, Indiana 47402. (800) 457-4509.

*WhatAbout.* A state owned AIT series of twelve 15-minute video programs directly addressing the processes in science and higher order thinking skills. The series may also be used in other subject matter areas for developing thinking skills. Available at reproduction cost. Academic Support Center, 505 E. Stewart Road, Columbia, Missouri 65211. (314) 882-3608. These programs may also be available through Instructional TV (ITV) telecast. Missouri schools have copying privileges for these programs if the school subscribes to ITV services.

## Agencies and Organizations

Jet Propulsion Laboratory, Education Outreach, 4800 Ash Grove Drive, Pasadena, California 91109. Mail stop 520-100. (818) 354-6916. Provides extensive earth and space science instructional materials and resources. Write for catalog.

Missouri Botanical Gardens, P.O. Box 299, St. Louis, Missouri 63166. Write for a listing of publications, programs, educational tours and speakers on science topics for grades 9 and 10.

Missouri Cooperative Extension Service. The extension service may have several science activities developed for other programs which would be useful in science classes. Check for the local office in your phone book.

Missouri Department of Conservation, Education Section, P.O. Box 180, Jefferson City, Missouri 65102. Provides extensive conservation, environmental and outdoor skills education publications, audio-visuals, inservice teacher training workshops, consultant assistance and other services for grades K-12. Contact your regional conservation educational consultant and/or outdoor skills specialist or write to the Education Section.

Missouri Department of Natural Resources, Office of Public Affairs, P.O. Box 176, Jefferson City, Missouri 65102. (314) 751-3443. Provides extensive instructional materials, teacher training workshops and other services for schools.

Missouri Facilitator Center, 310 N. Providence Road, Columbia, Missouri 65201. (314) 875-8782. The Facilitator Center has many validated programs in science, grades K-12. Write or call for the catalog entitled *Educational Programs that Work*. Annually, this catalog is sent to building principals.

National Science Teachers Association, 1742 Connecticut Avenue, NW, Washington, D.C. 20009. Write for publications list.

Phillips Petroleum Company, 16C-4 Phillips Building, Bartlesville, Oklahoma 74004. Provides several free science and math programs and a speakers bureau service.

Rural Electric Cooperatives. Many rural electric cooperatives provide materials useful in science programs. Check for the local office in your phone book if your area is served by a rural electric cooperative.

St. Louis Science Center, Education Director, 5050 Oakland Avenue, St. Louis, Missouri 63110. (314) 289-4409. The center provides several training programs and a variety of instructional materials.

# Selected Resources for Levels IX and X Social Studies

## Department Publications

The following Missouri Department of Elementary and Secondary Education publications are available from Missouri Testing and Evaluation Service, 403 S. Sixth Street, Columbia, Missouri 65211. (314) 882-4694.

*BEST Activity Book: Government/Economics Objectives.* 1977. Includes activities for students who failed the Government/Economics subtest.

*Guide to Social Studies Curriculum Development for Missouri Educators.* 1980. Goals, objectives and strategies to help educators improve their K-12 social studies programs.

*Missouri in The World* 1986. Identifies strategies for teaching Missouri students about their state's relationship with other cultures.

*The Social Studies Basic Skills Connection.* 1982. Practical strategies and activities for teaching basic skills in conjunction with the social studies content.

## Publications and articles

### General

*Social Education.* The journal of the National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016.

*The Social Studies.* A bimonthly magazine produced by Heldref Publications, 4000 Albemarle Street, NW, Washington, D.C. 20016.

### Geography

*Guidelines for Geographic Education: Elementary and Secondary Schools.* Available from the National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

*Teaching Map and Globe Skills: An Inductive Approach.* Anderson, Jeremy. National Council for Geographic Education, Western Illinois University, Macomb, Illinois, 61455.

### History

*The Magazine of History.* A quarterly produced for secondary U.S. history teachers by the Organization of American Historians, 112 North Bryan Street, Bloomington, Indiana 47401.

*The Study and Teaching of History.* 1980. Commager, Henry Steele, and Muessig, Raymond H. Columbus, Ohio. Merrill.

*Understanding History: A Primer of Historical Method.* 1966. Gottschalk, Louis. New York. Knopf.

### Government/Civics

*Rights and Responsibilities of Citizenship in a Free Society. A Law Oriented Curriculum Guide, K-12.* Produced by The Missouri Bar, P.O. Box 119, Jefferson City, Missouri 65102.

Organizations like the Social Science Education Consortium and the American Bar Association, listed under Agencies and Organizations below, have produced many useful materials for the bicentennial of the U.S. Constitution, which are relevant to "government/civics."

### Economics

*Curriculum Guide to Missouri Core Competencies in Economics.* Produced by and made available from the Center for Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211.

*A Framework for Teaching the Basic Economics Concepts.* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: Junior High Level (Grades 7-9).* Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: U.S. History.* Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Strategies: World History.* Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

*Teaching Economics in American History: A Teaching Manual for Secondary Schools.* The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016.

### Other Social Studies Competencies

Secondary and university textbooks on psychology and sociology have useful information on ideas relevant to competencies S and T. For information pertaining to causes and consequences of prejudice and discrimination, write for the current catalog of the Anti-Defamation League, 623 United Nations Plaza, New York, New York 10017. For information, teaching ideas and resources on teaching about other cultures, refer to *Social Education, News and Notes in The Social Studies,* the catalog of the Social Science Education Consortium, and *Missouri in The World. A Guide for Educators to the International Resource Collection,* available from the Community Education Office, Center for International Studies, University of Missouri-St. Louis, 336 SSB Building, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499, (314) 553-5801, lists materials which may be borrowed by Metropolitan St. Louis teachers and may serve others as a nice list of annotated materials districts should consider purchasing.

### Video Tape Series

The following video and microcomputer programs are available from your nearest Center for Economic Education or the Missouri Council on Economic Education, 228 Professional Building, 909 University, Columbia, Missouri 65211 (314) 882-3803.

*Give and Take.* A series of twelve video economics programs and a teacher's guide for grades 8-10 to help students understand economic concepts and make personal decisions.

*Tax Whys: Understanding Taxes.* A set of six video economics programs and a teacher's guide which examines such issues as why there are taxes and how taxes affect different income groups.

*Income/Outcome.* Eight economics microcomputer instructional units which will be available during the 1986-87 school year.

### Agencies and Organizations

#### General

Missouri Council for The Social Studies and MSTA Department of Social Studies.

Both groups sponsor state meetings twice a year and produce newsletters. Since neither group has a permanent address, contact the office of the Curriculum Consultant for Social Studies of the Missouri Department of Elementary and Secondary Education.

National Council for the Social Studies, 3501 Newark Street, NW, Washington, D.C. 20016 (202) 966-7840.

Produces the journal *Social Education*, which includes practical classroom ideas for all levels; books and booklets for social studies teachers; how-to-do-it pamphlets; and sponsors an annual Social Studies convention.

Social Science Education Consortium (SSEC), 855 Broadway, Boulder, Colorado 80302.

The SSEC has produced many excellent resource books for teachers. Write for catalog.

Social Studies Development Center, Indiana University, 2805 East 10th Street, Bloomington, Indiana 47405. (812) 335-3584.

Houses the ERIC Clearinghouse for Social Studies. It also produces two newsletters, free for school buildings: *News and Notes on the Social Sciences* and *Keeping Up: News Bulletin of the Clearinghouse for Social Studies/Social Science Education.*

#### Geography

National Council for Geographic Education, Western Illinois University, Macomb, Illinois 61455.

Holds an annual meeting and produces a journal. Recently published *Guidelines for Geographic Education for Elementary and Secondary Schools* (available at low cost).

National Geographic Society, Educational Media Division, Washington, D.C. 20036. (202) 828-5699.

Produces *National Geographic* (for adults) and *World* (for children) magazines and has recently begun producing a free newsletter for educators, *Geography Education Update.*

#### History

Organizations supportive of history include, among others, museums and historical societies. The particular organizations listed below offer materials that may be borrowed and used for history instruction and/or offer programs of interest to teachers:

Jefferson National Expansion Memorial
Education Office
11 N. Fourth Street
St. Louis, Missouri 63102 (314) 425-4472

St. Louis Art Museum
Department of Education
Forest Park
St. Louis, Missouri 63110 (314) 726-2316

Missouri Historical Society
Forest Park
St. Louis, Missouri 63110 (314) 721-0067

Nelson-Atkins Gallery of Art
4525 Oak Street
Kansas City, Missouri 64111 (816) 931-8963

#### Government/Civics

The Missouri Bar Advisory Committee on Citizenship Education (ACCE), P.O. Box 119, Jefferson City, Missouri 65102. (314) 635-4128.

The Missouri Bar ACCE, a joint program of The Missouri Bar, the Missouri Department of Elementary and Secondary Education, and the University of Missouri-Columbia, was established to help teachers understand and teach about the legal system. The committee produced a curriculum guide and other resources; operates an A-V lending library; assists with workshops and technical assistance; helps classroom teachers obtain attorneys as resource people; and has a free newsletter.

The American Bar Association Special Committee on Youth Education for Citizenship, 750 North Lake Shore Drive, Chicago, Illinois 60611. (312) 988-6056.

Publishes the magazine *Update on Law-Related Edu-*

*cation* (LRE) and two newsletters entitled *LRE Project Exchange* and *LRE Report: What's Happening in Law-Related Education*. These publications provide information about: the legal system, teaching activities, new publications, conferences and courses.

Resource Center for Law-Related Education, The Bar Association of Metropolitan St. Louis, One Mercantile Center, Suite 3600, St. Louis, Missouri 63101.

Conducts workshops, provides technical assistance and offers programs in the Metropolitan St. Louis area.

### Economics

The Missouri Council on Economic Education (MCEE), 228 Professional Building, 909 University, Columbia, Missouri 65211. (314) 882-3803.

MCEE coordinates a network of Centers for Economic Education to help elementary and secondary teachers understand and teach important ideas from economics. Contact the nearest center in your area for available materials and services: University of Missouri-Columbia, University of Missouri-St. Louis, Rockhurst College, Southeast Missouri State University, Southwest Missouri State University, Drury College, Northwest Missouri State University and Missouri Western State College. The centers are equipped to help local districts and teachers in their efforts to teach economics core competencies.

The Joint Council on Economic Education, 2 Park Avenue, New York, New York 10016. (212) 685-5499.

Produces many materials for teachers of all levels. Write for free catalog.

# Core Competencies and Key Skills - Oversight Committee

Mr. Ted Allison
Corporate Director, Personnel Services
McDonnell Douglas Corporation
St. Louis

Dr. A. Sterl Artley
Professor Emeritus
University of Missouri-Columbia

Dr. Robert Ashcroft
President Emeritus
Evangel College
Springfield

Dr. Norman Betz
Professor
Central Missouri State University

Mr. Keith Birkes
Executive Director
Missouri Bar Association
Jefferson City

Mr. Jack Bitzenburg
Pioneer Community College
Kansas City

Mr. Elmer Boehm
Monsanto Corporation
St. Louis

Ms. Christine Crawford
Principal
Palmyra Middle School
Palmyra

Mrs. Dottie Di Ciro
Parent
Poplar Bluff

Dr. James Dishman
Superintendent
Schuyler Co. R-I School District
Queen City

Honorable David Doctorian
Missouri State Senator
Jefferson City

Dr. R. C. Ebert
Board Member
Pleasant Hill

Dr. Irene Fitzgerald
Professor Emeritus
University of Missouri-Columbia

Dr. Grace Gardner
Professor Emeritus
Southwest Missouri State University
Aurora

Mr. Bill Ghan, Coordinator
(now retired)
Department of Elementary and Secondary Education
Jefferson City

Mr. Gary K. Gilbert
Principal
Vocational-Technical School
Cape Girardeau

Dean Milton Glick
College of Arts and Science
University of Missouri-Columbia

Dr. Thomas L. Good
Office of Research
University of Missouri-Columbia

Dr. Donn W. Gresso, Vice President
The Danforth Foundation
St. Louis

Dr. Paul Hagerty
Superintendent
Springfield R-XII School District
Springfield

Dr. Samuel Harbin
Superintendent
Sikeston R-VI School District
Sikeston

Mr. Donald Heard
Superintendent of Education
Missouri Department of Conservation
Jefferson City

Dr. Earl W. Hobbs
Superintendent
Clayton School District
Clayton

Ms. Wendy Hockaday
Hall Family Foundations
Kansas City

Mr. David Hutchens
Board Member
Monett

Mr. C. R. Johnson
President
Missouri Farm Bureau
Jefferson City

Mr. Everett Keith
Executive Director Emeritus
Missouri State Teachers Association
Columbia

Mrs. V. F. King
Elementary Principal
Roscoe C-I School District
Roscoe

Honorable Sheila Lumpe
Missouri State Representative
Jefferson City

Dr. Jack Magruder
Professor of Science
Northeast Missouri State University
Kirksville

Mr. D. A. Mallory
Superintendent Emeritus
Buffalo

Mr. F. M. Maupin
Vice President of Administration
A. P. Green Refractories Company
Mexico

Dr. Wil McCarther
Principal
Northeast Junior High School
Kansas City

Mr. Daniel "Duke" McVey
President
Missouri State Labor Council-AFL-CIO
Jefferson City

Mr. Jim Means
Columbia Area Career Center
Columbia

Dr. Duane Meyer
Professor
Southwest Missouri State University
Springfield

Ms. Marjorie Partridge
Parent
Eldon

Dr. John Paul Shadrach
Consultant Emeritus
Hazelwood

Honorable Stephen R. Sharp
Missouri State Senator
Jefferson City

Mr. Conrad Stawski
High School Teacher
Columbia

Dr. Robert Strom
Federal Reserve Bank of Kansas City
Kansas City

Mr. William Tetley
Retired Educator
Columbia

Dr. Russell Thompson
Superintendent
Columbia 93 School District
Columbia

Ms. Vivian H. Turner
Principal
Mitchell Branch Elementary School
St. Louis

Mrs. Eva Voris
Retired Teacher
Jefferson City

Dr. Ray Walsh
Jefferson College
Hillsboro

Honorable Curtis Wilkerson
Missouri State Representative
Jefferson City

## Core Competencies Committee - Language Arts/Reading/English

Virginia A. Baird
High School Teacher
Springfield

Betsy Baker
Elementary Teacher
President, Missouri International Reading Association
Columbia

Evelyn Belser
Instructional Assistant
Kansas City

Venita Bridger
Language Arts Coordinator
Springfield

Betty Cagle
Elementary Principal
Neosho

Ula Casale
Assistant Professor
Northwest Missouri State University
Maryville

Dorothy Cole
Director, Language Arts
Sedalia

Dorothy Doyle
Coordinator, Language Arts
Parkway

Caroline M. Fisher
Language Arts Supervisor
St. Louis

Lillian Foster
Elementary Principal
Laredo

Norma Harland
Director of Special Services
St. Joseph

Mitchell Holifield
Middle School Principal
Dexter

Linda Horton
Junior High Teacher
Columbia

Virginia Irwin
Junior High Teacher
Jefferson City

Elizabeth Krekeler
Language Arts Curriculum Specialist
Mehlville

Ginny Kugel
High School Teacher
President, Missouri Association of Teachers of English
Marshall

Robert Leibert
Professor of Education
University of Missouri-Kansas City

Stephanie Lane
Language Arts Supervisor
Ferguson-Florissant

Timothy Materer
Professor and Chair
Department of English
University of Missouri-Columbia

S. Marie McCarther
Elementary Resource Teacher
Kansas City

Jonna Merritt
Coordinator of Reading
Blue Springs

Ben Nelms
Professor of Education
University of Missouri-Columbia

Sondra Snyder
High School Vocational Teacher
Hannibal

Ronda Weaver
Elementary Teacher
Lee's Summit

Mary K. Westerfield
English Department Chair
Hickman High School
Columbia

Wilma Wilcoxson
High School Vocational Teacher
Jackson

Shirley Wurth
Language Arts Coordinator
Raytown

Karolyn L. Yocum
Assistant Professor
Communication Department
Central Missouri State University
Warrensburg

Grace M. McReynolds, Chairperson
Curriculum Consultant
Department of Elementary and Secondary Education

# Core Competencies Committee - Mathematics

Kimberly Brandon
Elementary Teacher
Brentwood

Roseanne Burns
Elementary Resource Teacher
Kansas City

Ann Campbell
Middle School Teacher
North Kansas City

Linda Coutts
Elementary Math Supervisor
Columbia

Virginia Flakne
Elementary Teacher
Carrollton

Jewell Fowler
Mathematics Coordinator
Sedalia

Audrey Friar
Elementary Teacher
Parkway

Rita Fugate
High School Teacher
Jefferson City

Jim Gaines
Instructor
Herndon Vo-Tech School
Raytown

Ron Gillman
High School Teacher
President, Missouri Council of Teachers
of Mathematics
Warsaw

Dorothy Glenn
Elementary Teacher
Brunswick

Gary Graves
Mathematics Coordinator
St. Joseph

William Grohs
High School Teacher
Viburnum

Jack Head
High School Teacher
Brentwood

Ellen Landess
Mathematics Coordinator
Kansas City

Jacqualine Mais
Elementary Principal
Marionville

Dennis Preis
High School Teacher
Parkway

Robert Reys
Professor of Mathematics
University of Missouri-Columbia

Dennis Sentilles
Professor and Chair
Department of Mathematics
University of Missouri-Columbia

Faye Sharp
High School Teacher
Columbia

Tom Sisson
Junior High Teacher
Columbia

Richard Skinner
Elementary Principal
Marceline

Arissa Smith
Mathematics Supervisor
St. Louis

George Smith
High School Teacher
Kansas City

Reta Smith
Mathematics Coordinator
Springfield

Cheryl Stroud
Junior High Teacher
Springfield

Eva Voris
Retired Elementary Teacher
Jefferson City

Joyce Wolf
Middle School Teacher
Sedalia

Cathy Wombwell
High School Teacher
Brookfield

Wendell Wyatt
Professor of Mathematics
Southeast Missouri State University
Cape Girardeau

John Yates
Junior High Teacher
St. Joseph

Theresa Yeager
Vocational Mathematics Specialist
Columbia

**Co-Chairpersons**

Richard King, Coordinator
Curriculum Services
Department of Elementary and Secondary Education

Vena Long, Mathematics Consultant
Instructional Improvement and Resources
Department of Elementary and Secondary Education

## Core Competencies Committee - Science

Lanny W. Barnes
Junior High Principal
Cape Girardeau

Jane Bowden
Elementary Teacher
Macon

Robert P. Breitenbach
Professor, Biological Science
University of Missouri-Columbia

Dianne Compton
High School Teacher
New Madrid

Jack D. Dillard
Chairperson, Science Department
West Plains

James E. Dishman
Superintendent
Queen City

Norma Jean Dorris
Elementary Teacher
Canton

Phyllis Eller
Elementary Teacher
Farmington

Dale Endicott
High School Teacher
Grandview

Gladys Green
Middle School Teacher
Sedalia

Jan Griffin
Elementary Teacher
Jefferson City

Jane Haskell
Middle School Teacher
Rolla

Noreen Hayes
Elementary Teacher
Northwestern R-I

Noveta Hayes
Elementary Teacher
Louisiana

Ann H. Henning
Elementary Teacher
Excelsior Springs

Jeannie Hilton
High School Teacher
Pacific

David Hunt
Elementary Teacher
Columbia

Melba James
Science Consultant
Parkway

Ernest Kern
Professor, Earth Science Dept.
Southeast Missouri State Univ.
Cape Girardeau

Marilyn K. Lane
Curriculum Supervisor
Kansas City

Edwina Laudwig
Elementary Teacher
Kirksville

Brenda Lewellen
Junior High Teacher
Springfield

Frank B. Lojko
Science Coordinator
Springfield

Patricia Lucido
Instructor
Northwest Missouri State Univ.
Maryville

Alana Lyles
Elementary Teacher
Springfield

Gerald L. McFarland
Junior High Principal
Parkway

Stuart A. McMains
Middle School Teacher
Brookfield

Frankie A. Meyer
High School Teacher
Joplin

Steve Murrie
Junior High Teacher
Union

Edward P. Ortleb
Science Coordinator
St. Louis

Ruby Petteway
Middle School Teacher
Sedalia

Robert A. Robbins
Science Consultant
St. Louis

Tom Schlimpert
Junior High School
Poplar Bluff

James Shaidnagel
High School Teacher
Pattonville

Clarence J. Siebert
Science Consultant
Hazelwood

John J. Stolt
Associate Superintendent
Columbia

Doris A. Trojcak
Associate Dean of Education
University of Missouri-St. Louis

Mark Yehle
Superintendent
Marceline

Margaret L. Young
High School Teacher
Kansas City

### Co-Chairpersons

Robert M. Taylor
Curriculum Consultant
Department of Elementary and Secondary Education

William F. Boulter
Science Consultant
Instructional Improvement and Resources
Department of Elementary and Secondary Education

# Core Competencies Committee - Social Studies/Civics

Sharon Albietz
Elementary Teacher
Affton

Joyce L. Alexander
Elementary Teacher
Parkway

Marie Andel
Elementary Teacher
Kirkwood

Jim Bimes
Coordinator, Social Studies
Hazelwood

Judy Booth
Elementary Teacher
Belton

Owen H. Case
Coordinator, Social Studies
Springfield

Donna Clark
Middle School Teacher
House Springs

Joyce Cox
High School Teacher
Center #58

Irene DeArman
Elementary Principal
Liberty

Wayne Dumas
Professor of Education
University of Missouri-Columbia

J. Naomi Eads
Elementary Teacher
Kansas City

Judith E. France
Director, Center for Economic Education
Southeast Missouri State Univ.
Cape Girardeau

Nancy Gerardi
Elementary Teacher
Columbia

William F. Higdon
Dept. Chairman, Social Studies
Columbia

Marcella Jordan
Elementary Teacher
Jefferson City

Roy Keeland
Social Studies Coordinator
Independence

Don Lawrence
Elementary Principal
Amazonia

Tresa McCallie
Home Economics Teacher
Normandy

Mary McFarland
Director of Staff Development
Parkway

Donald McGlothlin
Professor and Chair
Department of Music
University of Missouri-Columbia

Donna McKee
Social Studies Coordinator
Ferguson-Florissant

Antoinette M. Montgomery
Elementary Teacher
Ladue

Donald G. Parker
Elementary Principal
St. Joseph

Susan Pride
Elementary Teacher
Richmond

Clifford Sloan
Junior High Teacher
Camdenton

Tom Smallridge
Coordinator, Social Studies
Raytown

Nancy Sneed
High School Teacher
Sarcoxie

Jacquelyn Stammeyer
Junior High Teacher
Clark County R-I

Lori D. Stanek
Junior High Teacher
Bolivar

Sandra G. Twenter
Junior High Teacher
Fayette

Mary Vidakis
Junior High Teacher
St. Louis

Bob Walsh
High School Teacher
North Kansas City

Edna Whitfield
Social Studies Lead Supervisor
St. Louis

Susan Willard
Elementary Teacher
Harrisonville

Warren Solomon, Chairperson
Curriculum Consultant
Department of Elementary and Secondary Education